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 NEWS  1          Web Page for STN Seminar Schedule - N. America
 NEWS  2  NOV 21  CAS patent coverage to include exemplified prophetic
                  substances identified in English-, French-, German-,
                  and Japanese-language basic patents from 2004-present
 NEWS  3  NOV 26  MARPAT enhanced with FSORT command
 NEWS  4  NOV 26  CHEMSAFE now available on STN Easy
 NEWS  5  NOV 26  Two new SET commands increase convenience of STN
                  searching
 NEWS  6  DEC 01  ChemPort single article sales feature unavailable
 NEWS  7  DEC 12  GBFULL now offers single source for full-text
                  coverage of complete UK patent families
 NEWS  8  DEC 17  Fifty-one pharmaceutical ingredients added to PS
 NEWS  9  JAN 06  The retention policy for unread STNmail messages
                  will change in 2009 for STN-Columbus and STN-Tokyo
 NEWS 10  JAN 07  WPIDS, WPINDEX, and WPIX enhanced Japanese Patent
                  Classification Data
 NEWS 11  FEB 02  Simultaneous left and right truncation (SLART) added
                  for CERAB, COMPUAB, ELCOM, and SOLIDSTATE
 NEWS 12  FEB 02  GENBANK enhanced with SET PLURALS and SET SPELLING
 NEWS 13  FEB 06  Patent sequence location (PSL) data added to USGENE
 NEWS 14  FEB 10  COMPENDEX reloaded and enhanced
 NEWS 15  FEB 11  WTEXTILES reloaded and enhanced
 NEWS 16  FEB 19  New patent-examiner citations in 300,000 CA/CAplus
                  patent records provide insights into related prior
                  art
 NEWS 17  FEB 19  Increase the precision of your patent queries -- use
                  terms from the IPC Thesaurus, Version 2009.01
 NEWS 18  FEB 23  Several formats for image display and print options
                  discontinued in USPATFULL and USPAT2
 NEWS 19  FEB 23  MEDLINE now offers more precise author group fields
                  and 2009 MeSH terms
 NEWS 20  FEB 23  TOXCENTER updates mirror those of MEDLINE - more
                  precise author group fields and 2009 MeSH terms
 NEWS 21  FEB 23  Three million new patent records blast AEROSPACE into
                  STN patent clusters
 NEWS 22  FEB 25  USGENE enhanced with patent family and legal status
                  display data from INPADOCDB
 NEWS EXPRESS JUNE 27 08 CURRENT WINDOWS VERSION IS V8.3,
              AND CURRENT DISCOVER FILE IS DATED 23 JUNE 2008.

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COST IN U.S. DOLLARS SINCE FILE ENTRY TOTAL SESSION
FULL ESTIMATED COST 0.22 0.22

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STRUCTURE FILE UPDATES: 24 FEB 2009 HIGHEST RN 1111415-98-5
DICTIONARY FILE UPDATES: 24 FEB 2009 HIGHEST RN 1111415-98-5

New CAS Information Use Policies, enter HELP USAGETERMS for details.

TSCA INFORMATION NOW CURRENT THROUGH January 9, 2009.

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http://www.cas.org/support/stngen/stndoc/properties.html

=> s 99-100 Hf/mac
79578 99-100/MAC
15088 HF/MAC
L1 86 99-100 HF/MAC
(99-100/MAC (P) HF/MAC)

=> d l1

L1 ANSWER 1 OF 86 REGISTRY COPYRIGHT 2009 ACS on STN
RN 1050415-12-7 REGISTRY
ED Entered STN: 18 Sep 2008
CN Hafnium alloy, base, Hf 85-99,W 1-15 (CA INDEX NAME)
MF Hf . W
CI AYS
SR CA
LC STN Files: CA, CAPLUS

Component	Component Percent	Component Registry Number
Hf	85 - 99	7440-58-6

```
    W         1  -  15        7440-33-7

                1 REFERENCES IN FILE CA (1907 TO DATE)
                1 REFERENCES IN FILE CAPLUS (1907 TO DATE)


=> d ll 2

L1   ANSWER 2 OF 86  REGISTRY  COPYRIGHT 2009 ACS on STN
RN   917757-11-0  REGISTRY
ED   Entered STN:  18 Jan 2007
CN   Hafnium alloy, base, Hf 100,Mo 0.3  (CA INDEX NAME)
OTHER NAMES:
CN   Hafnium 100, molybdenum 0.3
MF   Hf . Mo
CI   AYS
SR   CA
LC   STN Files:   CA, CAPLUS

Component   Component      Component
              Percent    Registry Number
=========+=============+================
    Hf         100            7440-58-6
    Mo           0.3          7439-98-7


**PROPERTY DATA AVAILABLE IN THE 'PROP' FORMAT**

                1 REFERENCES IN FILE CA (1907 TO DATE)
                1 REFERENCES IN FILE CAPLUS (1907 TO DATE)


=> d ll 4

L1   ANSWER 4 OF 86  REGISTRY  COPYRIGHT 2009 ACS on STN
RN   874635-54-8  REGISTRY
ED   Entered STN:  20 Feb 2006
CN   Hafnium alloy, base, Hf 99,W 1 (9CI)  (CA INDEX NAME)
MF   Hf . W
CI   AYS
SR   CA
LC   STN Files:   CA, CAPLUS

Component   Component      Component
              Percent    Registry Number
=========+=============+================
    Hf           99           7440-58-6
    W             1           7440-33-7

                1 REFERENCES IN FILE CA (1907 TO DATE)
                1 REFERENCES IN FILE CAPLUS (1907 TO DATE)


=> file hcaplus, uspatfull, gbfull, epfull
COST IN U.S. DOLLARS                            SINCE FILE      TOTAL
                                                   ENTRY     SESSION
FULL ESTIMATED COST                                12.46       12.68

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=> s l1
'MAC' IS NOT A VALID FIELD CODE
'MAC' IS NOT A VALID FIELD CODE
L2          80 L1

=> dup rem l2
PROCESSING COMPLETED FOR L2
L3           78 DUP REM L2 (2 DUPLICATES REMOVED)

=> d scan l3

L3    78 ANSWERS   HCAPLUS  COPYRIGHT 2009 ACS on STN
CC    56-10 (Nonferrous Metals and Alloys)
TI    Oxidation of hafnium-based mixed nitrides and borides
ST    hafnium nitride boride thermal oxidn
IT    Sintering
         (hot pressing; oxidation of hafnium-based mixed nitrides and borides)
IT    Scale (deposits)
         (oxide; oxidation of hafnium-based mixed nitrides and borides)
IT    Microstructure
         (oxidation of hafnium-based mixed nitrides and borides)
IT    Oxidation
         (thermal; oxidation of hafnium-based mixed nitrides and borides)
IT    1303-86-2, Boron oxide (B2O3), formation (nonpreparative)   12055-23-1,
      Hafnium oxide (HfO2)
      RL: FMU (Formation, unclassified); FORM (Formation, nonpreparative)
         (oxidation of hafnium-based mixed nitrides and borides)
IT    477860-73-4 477860-75-6, Hafnium 90, nitrogen 10
      (atomic)    477860-76-7, Hafnium 80, nitrogen 20 (atomic)   956748-18-8
      956748-19-9   956748-20-2
      RL: TEM (Technical or engineered material use); USES (Uses)
         (oxidation of hafnium-based mixed nitrides and borides)

HOW MANY MORE ANSWERS DO YOU WISH TO SCAN? (1):1

L3    78 ANSWERS   HCAPLUS  COPYRIGHT 2009 ACS on STN
CC    56-8 (Nonferrous Metals and Alloys)
TI    Thermodynamic optimization of the Hf-Mo phase diagram
ST    thermodn optimization hafnium molybdenum phase diagram computer program
IT    Computer program
      Phase diagram
      Simulation and Modeling
      Thermodynamics
         (thermodn. optimization of Hf-Mo phase diagram)
IT    404578-67-2, Hafnium 0-100, molybdenum 0-100
      RL: PRP (Properties)
         (thermodn. optimization of Hf-Mo phase diagram)

HOW MANY MORE ANSWERS DO YOU WISH TO SCAN? (1):0

=> s l3 and (pure or purity or 4N or 4N5 or 5N or 5N5 or 6N or sputter or
sputtering)
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L4 9 L3 AND (PURE OR PURITY OR 4N OR 4N5 OR 5N OR 5N5 OR 6N OR SPUTTE
R OR SPUTTERING)

=> d l4 1-9 ibib, abs

L4 ANSWER 1 OF 9 HCAPLUS COPYRIGHT 2009 ACS on STN
ACCESSION NUMBER: 2008:1045644 HCAPLUS
DOCUMENT NUMBER: 149:313026
TITLE: Refractory metal tooling for friction stir welding
INVENTOR(S): Rowe, Charles E. D.; Tuck, Jonathan R.
PATENT ASSIGNEE(S): H.C. Starck Ltd., UK
SOURCE: PCT Int. Appl., 30pp.
CODEN: PIXXD2
DOCUMENT TYPE: Patent
LANGUAGE: English
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 2008102209	A2	20080828	WO 2007-IB4537	20070815

W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BH, BR, BW, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DO, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, GT, HN, HR, HU, ID, IL, IN, IS, JP, KE, KG, KM, KN, KP, KR, KZ, LA, LC, LK, LR, LS, LT, LU, LY, MA, MD, ME, MG, MK, MN, MW, MX, MY, MZ, NA, NG, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RS, RU, SC, SD, SE, SG, SK, SL, SM, SV, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, ZA, ZM, ZW
RW: AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IS, IT, LT, LU, LV, MC, MT, NL, PL, PT, RO, SE, SI, SK, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG, BW, GH, GM, KE, LS, MW, MZ, NA, SD, SL, SZ, TZ, UG, ZM, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM

PRIORITY APPLN. INFO.: GB 2006-16571 A 20060821
AB A tool for friction stir welding or forming is provided. The tool comprises a shoulder portion and optionally a pin portion, the shoulder portion comprised of at least 60 % by weight and up to 100% by weight of tungsten, molybdenum, tantalum, niobium or hafnium, the balance being alloying materials, if used. The tool has at least one surface treatment or coating. Articles welded by the tools are also provided.

L4 ANSWER 2 OF 9 HCAPLUS COPYRIGHT 2009 ACS on STN
ACCESSION NUMBER: 2007:288678 HCAPLUS
DOCUMENT NUMBER: 147:545664
TITLE: Oxidation of hafnium-based mixed nitrides and borides
AUTHOR(S): Wuchina, Eric J.; Opeka, Mark M.
CORPORATE SOURCE: Naval Surface Warfare Center, W. Bethesda, MD, USA
SOURCE: Proceedings - Electrochemical Society (2005), 2004-16(High Temperature Corrosion and Materials Chemistry V), 240-252
CODEN: PESODO; ISSN: 0161-6374
PUBLISHER: Electrochemical Society
DOCUMENT TYPE: Journal
LANGUAGE: English
AB Materials in the Hf-N and Hf-N-B systems were prepared by reactive hot pressing and oxidized in arc-heated air at a cold-wall heat flux of 400 W/cm2 and a stagnation pressure of 0.58 atmospheric The peak surface temperature was
2000-2400° and the test time was 180 s. All materials formed a pure HfO2 outer scale, with the B-containing compns. retaining some B2O3 on that layer. Between the oxide layer and the virgin material a transition layer is visible in which the N content decreases and the O

content increases. This suggests that N and O are diffusing in opposite directions and not necessarily reacting to form NOx. The presence of B allowed the outer oxide to be gas impermeable forming B2O3 that fills the pores of HfO2. Without a pore channel network to diffuse through, the buildup N2 at the interface of the oxide and transition region caused the oxide layer to pull away from the material and form a bubble. In the Hf-N materials, grain size had a large effect on the size of the transition zone, while increased porosity did not show any increase in oxidation The addition of Ta and W-based compds. adversely affected the formation of the HfO2 scale because of low-melting oxides that were readily removed during the tests, leaving large pore channels in both the oxide and transition zone.

REFERENCE COUNT: 4 THERE ARE 4 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L4 ANSWER 3 OF 9 HCAPLUS COPYRIGHT 2009 ACS on STN
ACCESSION NUMBER: 2002:642063 HCAPLUS
DOCUMENT NUMBER: 138:27808
TITLE: Processing and mechanical properties of materials in the Hf-N system
AUTHOR(S): Wuchina, Eric; Opeka, Mark; Gutierrez-Mora, Felipe; Koritala, Rachel E.; Goretta, K. C.; Routbort, J. L.
CORPORATE SOURCE: Naval Surface Warfare Center-Carderock Division, West Bethesda, MD, 20817-5700, USA
SOURCE: Journal of the European Ceramic Society (2002), 22(14-15), 2571-2576
CODEN: JECSER; ISSN: 0955-2219
PUBLISHER: Elsevier Science Ltd.
DOCUMENT TYPE: Journal
LANGUAGE: English
AB Samples of hexagonal α-Hf containing up to 30 atomic% N in solid solution were made by a solid-state reaction. The brittle-to-ductile transition temperature increased as the %N increased. Steady-state compressive deformation was measured from 20 to 1000°. The data for pure Hf could be fit using a threshold stress with a stress exponent of 5. The stress exponent of the Hf-N solid solution materials was between 5 and 8. The expts. could be interpreted on the basis of dislocation-controlled plasticity, with N acting as classical solid-solution hardening solutes. TEM supported this interpretation.
REFERENCE COUNT: 12 THERE ARE 12 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L4 ANSWER 4 OF 9 HCAPLUS COPYRIGHT 2009 ACS on STN
ACCESSION NUMBER: 1999:125155 HCAPLUS
DOCUMENT NUMBER: 130:270283
TITLE: Solid-state amorphization reaction in mechanically deformed AlxHf100-x multilayered composite powders and the effect of annealing
AUTHOR(S): Sherif El-Eskandarany, M.
CORPORATE SOURCE: Faculty of Engineering, Mining and Petroleum Engineering Department, Al-Azhar University, Nasr City, Cairo, 11371, Egypt
SOURCE: Journal of Alloys and Compounds (1999), 284(1-2), 295-307
CODEN: JALCEU; ISSN: 0925-8388
PUBLISHER: Elsevier Science S.A.
DOCUMENT TYPE: Journal
LANGUAGE: English
AB Single phase amorphous AlxHf100-x alloys with a wide amorphization range (33≤x≤75) were synthesized by the solid-state interdiffusion of pure polycryst. Al and Hf powders at room temperature using a rod-milling technique. The mechanisms of metallic glass formation and

competing crystallization processes in the mech. deformed composite powders were
investigated by means of X-ray diffraction, DTA, SEM, and TEM. The numerous intimate layered composite particles of the diffusion couples that formed during the first and intermediate stages of milling (0-173 ks) are intermixed to form amorphous phase(s) upon heating to about 980 K by so-called thermally assisted solid-state amorphization (TASSA). The amorphization heat formation for the binary AlxHf100-x system via TASSA, ΔHTASSAa, was measured directly as a function of the milling time. Homogeneous amorphous alloys were also fabricated directly without heating the composite multilayered particles after milling the particles for a longer milling time (360-720 ks). This amorphization reaction is attributed to mech. driven solid-state amorphization (MDSSA). The maximum heat formation of amorphization for the binary AlxHf100-x system via MDSSA, ΔHMDSSAa, was estimated The crystallization characteristics indexed by the crystallization temperature, Tx, and the enthalpy change of crystallization, ΔHx, were
measured for the amorphous alloys formed either by the TASSA (TTASSAx and ΔHTASSAx) or the MDSSA (TMDSSAx and ΔHMDSSAx) processes. The roles of amorphization and crystallization in each process are discussed.
REFERENCE COUNT: 40 THERE ARE 40 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L4 ANSWER 5 OF 9 HCAPLUS COPYRIGHT 2009 ACS on STN
ACCESSION NUMBER: 1997:111105 HCAPLUS
DOCUMENT NUMBER: 126:165451
ORIGINAL REFERENCE NO.: 126:31819a,31822a
TITLE: Surface acoustic wave devices
INVENTOR(S): Matsukura, Norisuke; Kamijo, Atsushi
PATENT ASSIGNEE(S): Nippon Electric Co, Japan
SOURCE: Jpn. Kokai Tokkyo Koho, 5 pp.
CODEN: JKXXAF
DOCUMENT TYPE: Patent
LANGUAGE: Japanese
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
JP 08340233	A	19961224	JP 1995-146187	19950613
PRIORITY APPLN. INFO.:			JP 1995-146187	19950613

AB The device has an electrode consisting of a primer film from a transition metal-(0.5-5%)Si alloy (e.g., 0.3-3 nm thick) and an Al or an Al-base alloy film oriented in (111). The primer film is easily etched without leaving residues and over-etching of the Al-base film is avoided.

L4 ANSWER 6 OF 9 HCAPLUS COPYRIGHT 2009 ACS on STN
ACCESSION NUMBER: 1991:50478 HCAPLUS
DOCUMENT NUMBER: 114:50478
ORIGINAL REFERENCE NO.: 114:8601a,8604a
TITLE: Optimization and calculation of the hafnium-nickel phase diagram
AUTHOR(S): Zeng, Kejun; Jin, Zhanpeng
CORPORATE SOURCE: Cent. South Univ. Technol., Changsha, 410083, Peop. Rep. China
SOURCE: Journal of the Less-Common Metals (1990), 166(1), 21-7
CODEN: JCOMAH; ISSN: 0022-5088
DOCUMENT TYPE: Journal
LANGUAGE: English
AB An optimized phase diagram for the Hf-Ni system was constructed by using exptl. data from the literature. The excess free energies of solution phases, liquid and (Ni) were described by the Legendre polynomials. Eight

compds., i.e. Hf2Ni, HfNi, Hf9Ni11, Hf7H10, Hf3Ni3, Hf2Ni7, and HfNi5, were modelled as line compds. Two terminal solid solution phases, i.e. β-Hf and α-Hf, were treated as pure elements body centered cubic-Hf and hcp.-Hf, resp. Optimization and calcn. were performed alternatively with different selections of data in the composition region 15-50 atomic% Ni in order to get the most acceptable compromise between the conflicting exptl. results. The data set obtained was subjected to adjustment by systematic trial and error in the ranges of 15-50 and 90-100 atomic% Ni where the exptl. data were insufficient for a reasonable calcn.

L4 ANSWER 7 OF 9 HCAPLUS COPYRIGHT 2009 ACS on STN
ACCESSION NUMBER: 1979:31511 HCAPLUS
DOCUMENT NUMBER: 90:31511
ORIGINAL REFERENCE NO.: 90:4991a,4994a
TITLE: Strength, symmetry and distribution of electric quadrupole interactions at tantalum-181 impurities in hafnium-zirconium alloys
AUTHOR(S): Rasera, R. L.; Butz, T.; Vasquez, A.; Ernst, H.; Shenoy, G. K.; Dunlap, B. D.; Reno, R. C.; Schmidt, G.
CORPORATE SOURCE: Dep. Phys., Univ. Maryland Baltimore Cty., Baltimore, MD, USA
SOURCE: Journal of Physics F: Metal Physics (1978), 8(7), 1579-89
CODEN: JPFMAT; ISSN: 0305-4608
DOCUMENT TYPE: Journal
LANGUAGE: English
AB The nuclear quadrupole interaction at substitutional Ta atoms in the alloy system HfxZr1-x was examined over the entire range of composition by time differential perturbed angular correlations. Oriented and randomized single crystals a well as textured, cold-worked, and random polycrystals were examined For pure Zr and Hf a pure elec. quadrupole interaction of 303.9 and 311 MHz, resp., was found, with no elec. field gradient asymmetry and negligible damping due to finite distribution of the elec. field-gradient strength. Addition of increasing amts. of impurities at either end of the phase diagram gave a 2-component time differential perturbed angular-correlation pattern. The asymmetry of the elec. field gradient measured previously in com. available Hf metal containing 3-5 weight % Zr impurities is due to a statistical distribution of Zr near the probe nucleus.

L4 ANSWER 8 OF 9 HCAPLUS COPYRIGHT 2009 ACS on STN
ACCESSION NUMBER: 1972:491901 HCAPLUS
DOCUMENT NUMBER: 77:91901
ORIGINAL REFERENCE NO.: 77:15159a,15162a
TITLE: Tantalum alloys
AUTHOR(S): Tsyganova, I. A.; Tylkina, M. A.
CORPORATE SOURCE: USSR
SOURCE: Fiz.-Khim. Redk. Metal. (1972), 93-7. Editor(s): Tananaev, I. V. "Nauka": Moscow, USSR.
CODEN: 25GYAX
DOCUMENT TYPE: Conference
LANGUAGE: Russian
AB To study the properties of new Ta alloys and to establish the regularities of changes in these properties as dependent on the phys.-chemical properties and the structural factors of the alloying elements, the effect of the degree of purity and of melting on Ta properties was investigated. Metals from Groups IV-VIII of the periodic system were used as alloying elements and their effect on the mech. properties and on the recrystn. process of the alloys obtained was examined The addition of Ti, Zr, V, Nb, Cr, Mo, W, Re, Co, and Ni inhibited recrystn., and increased the temperature of Ta recrystn. The highest increases in Ta hardness and strength

were obtained with Re, Mo, and W, and the lowest by Nb, and Ti.

L4 ANSWER 9 OF 9 USPATFULL on STN
ACCESSION NUMBER: 2004:251708 USPATFULL
TITLE: Plasma cutting torch electrode with an Hf/Zr insert
INVENTOR(S): Delzenne, Michel, Franconville, FRANCE

	NUMBER	KIND	DATE
PATENT INFORMATION:	US 20040195220	A1	20041007
	US 6911619	B2	20050628
APPLICATION INFO.:	US 2004-797236	A1	20040310 (10)

	NUMBER	DATE
PRIORITY INFORMATION:	FR 2003-3185	20030314

DOCUMENT TYPE: Utility
FILE SEGMENT: APPLICATION
LEGAL REPRESENTATIVE: Linda K. Russell, Air Liquide, Suite 1800, 2700 Post Oak Blvd., Houston, TX, 77056
NUMBER OF CLAIMS: 19
EXEMPLARY CLAIM: 11
NUMBER OF DRAWINGS: 1 Drawing Page(s)
LINE COUNT: 198
CAS INDEXING IS AVAILABLE FOR THIS PATENT.
AB The invention relates to an emissive electrode insert formed from an alloy containing hafnium and zirconium. The insert typically contains at least 80% hafnium by weight, preferably at least 90% by weight, and 0.1 to 8% zirconium by weight, preferably 0.5 to 5% zirconium by weight. The invention also relates to a plasma torch electrode formed from an electrode body comprising a cavity into which such an emissive insert is fitted; to a plasma torch comprising such an electrode; and to a plasma cutting process for cutting a steel workpiece, in which such a plasma torch is employed.

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

=> file caplus, inspec, uspatfull, epfull, gbfull, scisearch

COST IN U.S. DOLLARS	SINCE FILE ENTRY	TOTAL SESSION
FULL ESTIMATED COST	36.87	49.55
DISCOUNT AMOUNTS (FOR QUALIFYING ACCOUNTS)	SINCE FILE ENTRY	TOTAL SESSION
CA SUBSCRIBER PRICE	-6.56	-6.56

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FILE 'EPFULL' ENTERED AT 20:59:36 ON 25 FEB 2009

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E1            6     SHINDO YUGO/AU
E2            6     SHINDO YUGO/IN
E3          134 --> SHINDO YUICHIRO/AU
E4          125     SHINDO YUICHIRO/IN
E5            1     SHINDO YUICHIRO 187 4 USUBA HANAKAWA CHO/AU
E6            1     SHINDO YUICHIRO 187 4 USUBA HANAKAWA CHO/IN
E7            1     SHINDO YUICHIRO C O ISOHARA FACTORY/AU
E8            1     SHINDO YUICHIRO C O ISOHARA FACTORY/IN
E9            3     SHINDO YUICHIRO C O ISOHARA FACTORY OF NIKKO/AU
E10           3     SHINDO YUICHIRO C O ISOHARA FACTORY OF NIKKO/IN
E11           1     SHINDO YUICHIRO C O ISOHARA FACTORY OF NIPPON MIN/AU
E12           1     SHINDO YUICHIRO C O ISOHARA FACTORY OF NIPPON MIN/IN
The indicated field code is not available for EXPAND in this
file.  To see a list of valid EXPAND field codes, enter HELP
SFIELDS at an arrow prompt (=>).

=> s e3-e12
'IN' IS NOT A VALID FIELD CODE
L5          140 ("SHINDO YUICHIRO"/AU OR "SHINDO YUICHIRO"/IN OR "SHINDO YUICHIR
                O 187 4 USUBA HANAKAWA CHO"/AU OR "SHINDO YUICHIRO 187 4 USUBA
                HANAKAWA CHO"/IN OR "SHINDO YUICHIRO C O ISOHARA FACTORY"/AU OR
                "SHINDO YUICHIRO C O ISOHARA FACTORY"/IN OR "SHINDO YUICHIRO C
                O ISOHARA FACTORY OF NIKKO"/AU OR "SHINDO YUICHIRO C O ISOHARA
                FACTORY OF NIKKO"/IN OR "SHINDO YUICHIRO C O ISOHARA FACTORY OF
                NIPPON MIN"/AU OR "SHINDO YUICHIRO C O ISOHARA FACTORY OF NIPPON
                 MIN"/IN)

=> s l5 and (hafnium or hf)
L6           18 L5 AND (HAFNIUM OR HF)

=> dup rem l6
PROCESSING COMPLETED FOR L6
L7           18 DUP REM L6 (0 DUPLICATES REMOVED)

=> d scan l6

L6    18 ANSWERS   CAPLUS  COPYRIGHT 2009 ACS on STN
IC    ICM  C23C014-34
      ICS  C22B034-14; C22B009-22; C22C027-00
CC    76-11 (Electric Phenomena)
      Section cross-reference(s): 56
TI    High purity hafnium, target and thin film comprising said high
      purity hafnium, and method for producing high purity
      hafnium
ST    hafnium thin film sputtering target deposition
IT    Sputtering
      Sputtering targets
         (high purity hafnium sponge for sputtering target of thin
         film deposition process)
IT    7440-58-6, Hafnium, processes
      RL: EPR (Engineering process); PEP (Physical, engineering or chemical
      process); TEM (Technical or engineered material use); PROC (Process); USES
      (Uses)
         (high purity hafnium sponge for sputtering target of thin
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film deposition process)

HOW MANY MORE ANSWERS DO YOU WISH TO SCAN? (1):1

L6 18 ANSWERS CAPLUS COPYRIGHT 2009 ACS on STN
IC ICM C22B034-14
ICS C22B009-02; C22B009-22; C22C001-02; C22C016-00; C22C027-00
CC 54-2 (Extractive Metallurgy)
TI Manufacture of high purity zirconium or hafnium
ST zirconium hafnium high purity electron beam melting; fluoronitric acid surface deposit removal zirconium hafnium sponge; aluminum zinc copper magnesium foil wrapping sponge material
IT Melting
(electron-beam-induced; in manufacture of high purity zirconium or hafnium)
IT Purity
(manufacture of high purity zirconium or hafnium)
IT 7697-37-2, Nitric acid, uses
RL: NUU (Other use, unclassified); USES (Uses)
(fluoronitric acid; for removing of surface deposit of sponge material in manufacture of high purity zirconium or hafnium)
IT 7440-58-6, Hafnium, processes 7440-67-7, Zirconium, processes
RL: EPR (Engineering process); PEP (Physical, engineering or chemical process); TEM (Technical or engineered material use); PROC (Process); USES (Uses)
(manufacture of high purity zirconium or hafnium)
IT 7429-90-5, Aluminum, uses 7439-95-4, Magnesium, uses 7440-50-8, Copper, uses 7440-66-6, Zinc, uses
RL: NUU (Other use, unclassified); USES (Uses)
(wrapping foil; for manufacture of high purity zirconium or hafnium)

HOW MANY MORE ANSWERS DO YOU WISH TO SCAN? (1):0

=> d l6 1-18 ibib, abs

L6 ANSWER 1 OF 18 CAPLUS COPYRIGHT 2009 ACS on STN
ACCESSION NUMBER: 2007:58783 CAPLUS
DOCUMENT NUMBER: 146:166716
TITLE: High-purity hafnium, target and thin film comprising high-purity hafnium, and process for producing high-purity hafnium
INVENTOR(S): Shindo, Yuichiro
PATENT ASSIGNEE(S): Nippon Mining & Metals Co., Ltd., Japan
SOURCE: PCT Int. Appl., 15pp.
CODEN: PIXXD2
DOCUMENT TYPE: Patent
LANGUAGE: Japanese
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 2007007498	A1	20070118	WO 2006-JP311722	20060612

W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KM, KN, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, LY, MA, MD, MG, MK, MN, MW, MX, MZ, NA, NG, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RS, RU, SC, SD, SE, SG, SK, SL, SM, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, ZA, ZM, ZW
RW: AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE,

IS, IT, LT, LU, LV, MC, NL, PL, PT, RO, SE, SI, SK, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG, BW, GH, GM, KE, LS, MW, MZ, NA, SD, SL, SZ, TZ, UG, ZM, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM

EP 1930451	A1	20080611	EP 2006-766584	20060612
R: DE				
KR 2008017439	A	20080226	KR 2008-700215	20080104
CN 101218360	A	20080709	CN 2006-80024726	20080107

PRIORITY APPLN. INFO.: JP 2005-198901 A 20050707
WO 2006-JP311722 W 20060612

AB Disclosed are a process for producing high-purity hafnium from a hafnium sponge reduced in Zr content as a raw material, the high-purity hafnium being reduced in the contents of Fe, Cr, Ni, Ca, Na, K, Al, Co, Cu, Ti, W, Zn, U, Th, Pb, Bi, an C impurities and having very low α-ray count; an efficient and stable production technique; a high-purity hafnium material obtained by the technique; and a sputtering target and a gate insulator or thin film for metal gate made of the high-purity Hf. The high-purity hafnium is characterized in that the purity of the hafnium excluding Zr and the volatile matter is 6N or higher and that the contents of Fe, Cr, and Ni each is 0.2 ppm or lower, the contents of Ca, Na, and K each is 0.1 ppm or lower, and the contents of Al, Co, Cu, Ti, W, and Zn each is 0.1 ppm or lower.

REFERENCE COUNT: 6 THERE ARE 6 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L6 ANSWER 2 OF 18 CAPLUS COPYRIGHT 2009 ACS on STN
ACCESSION NUMBER: 2005:472367 CAPLUS
DOCUMENT NUMBER: 142:492227
TITLE: High purity hafnium, target and thin film comprising said high purity hafnium, and method for producing high purity hafnium
INVENTOR(S): Shindo, Yuichiro
PATENT ASSIGNEE(S): Nikko Materials Co., Ltd., Japan
SOURCE: PCT Int. Appl., 16 pp.
CODEN: PIXXD2
DOCUMENT TYPE: Patent
LANGUAGE: Japanese
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 2005049882	A1	20050602	WO 2004-JP15777	20041025
W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NA, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW				
RW: BW, GH, GM, KE, LS, MW, MZ, NA, SD, SL, SZ, TZ, UG, ZM, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM, AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PL, PT, RO, SE, SI, SK, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG				
EP 1686196	A1	20060802	EP 2004-792914	20041025
R: DE, GB, NL				
CN 1882711	A	20061220	CN 2004-80034175	20041025
EP 2017360	A2	20090121	EP 2008-165172	20041025
R: DE, GB, NL				
TW 275653	B	20070311	TW 2004-93132709	20041028
US 20060266158	A1	20061130	US 2006-595660	20060503

KR 766275 B1 20071015 KR 2006-711476 20060612
PRIORITY APPLN. INFO.: JP 2003-388737 A 20031119
EP 2004-792914 A3 20041025
WO 2004-JP15777 W 20041025

AB The invention relates to a high purity hafnium, characterized in that it has a purity of 4N or higher, with the exception of zirconium and gas components, and has an oxygen content of 40 ppm or less; a target and thin film comprising the high purity hafnium; a high purity hafnium, characterized in that it has a purity of 4N or higher, with the exception of zirconium and gas components, and has both of a sulfur content and a phosphorus content of 10 wt ppm or less; a target and thin film comprising the high purity hafnium; a high purity hafnium material which is prepared by the use of a hafnium sponge having been reduced in the content of zirconium as a raw material and is further reduced in the contents of oxygen, sulfur and phosphorus; a target and thin film comprising the high purity hafnium material; and a method for producing a high purity hafnium. An efficient and stable production technique, a high purity hafnium material prepared by the technique, and a target and a thin film comprising said material are provided.

REFERENCE COUNT: 16 THERE ARE 16 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L6 ANSWER 3 OF 18 CAPLUS COPYRIGHT 2009 ACS on STN
ACCESSION NUMBER: 2005:99653 CAPLUS
DOCUMENT NUMBER: 142:189002
TITLE: Highly pure hafnium material, target thin film comprising the same and method for producing highly pure hafnium
INVENTOR(S): Shindo, Yuichiro
PATENT ASSIGNEE(S): Nikko Materials Co., Ltd., Japan
SOURCE: PCT Int. Appl., 13 pp.
CODEN: PIXXD2
DOCUMENT TYPE: Patent
LANGUAGE: Japanese
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 2005010220	A1	20050203	WO 2004-JP5389	20040415
W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NA, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW				
RW: BW, GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM, AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PL, PT, RO, SE, SI, SK, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG				
EP 1652944	A1	20060503	EP 2004-727690	20040415
R: DE				
CN 1829807	A	20060906	CN 2004-80021556	20040415
CN 100376696	C	20080326		
TW 271441	B	20070121	TW 2004-93110816	20040419
US 20070018138	A1	20070125	US 2006-565767	20060124
KR 749653	B1	20070814	KR 2006-701711	20060125
KR 2007070263	A	20070703	KR 2007-714503	20070626

PRIORITY APPLN. INFO.: JP 2003-279695 A 20030725
WO 2004-JP5389 W 20040415

AB A method for producing highly pure hafnium, which comprises providing an aqueous solution of a chloride of hafnium, removing zirconium from the resultant solution by the solvent extraction, neutralizing the resultant solution to give hafnium oxide, chlorinate the hafnium oxide product to give hafnium chloride, reducing the hafnium chloride product to give a hafnium sponge, and melting the hafnium sponge with an electron beam to provide a hafnium ingot; a highly pure hafnium material produced by the method; a target and a thin film comprising the hafnium material; and a method for manufacturing the target or the thin film. The highly pure hafnium material is reduced in the content of zirconium contained in hafnium, and the above method for producing highly pure hafnium is efficient and is stable.
REFERENCE COUNT: 4 THERE ARE 4 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L6 ANSWER 4 OF 18 CAPLUS COPYRIGHT 2009 ACS on STN
ACCESSION NUMBER: 2003:525626 CAPLUS
DOCUMENT NUMBER: 139:71880
TITLE: Recovery method of titanium from titanium scrap
INVENTOR(S): Shindo, Yuichiro; Yamamoto, Norio
PATENT ASSIGNEE(S): Nikko Materials Co., Ltd., Japan; Toho Titanium Co., Ltd.
SOURCE: Jpn. Kokai Tokkyo Koho, 5 pp.
CODEN: JKXXAF
DOCUMENT TYPE: Patent
LANGUAGE: Japanese
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
JP 2003193151	A	20030709	JP 2001-398827	20011228
JP 3673919	B2	20050720		
PRIORITY APPLN. INFO.:			JP 2001-398827	20011228

AB The method includes melting low-m.p. metal-adhered Ti scraps by heating to a temperature higher than the m.p. of the low-m.p. metal to remove the low-m.p. metal, blasting or cutting to remove Ti compds. from the Ti surface, pickling with HF-based acid containing an oxidizing agent to remove the surface layer of ≥5 μm and vacuum melting by electron beam.

L6 ANSWER 5 OF 18 CAPLUS COPYRIGHT 2009 ACS on STN
ACCESSION NUMBER: 2003:451885 CAPLUS
DOCUMENT NUMBER: 139:10485
TITLE: Manufacture of high purity antimony or tellurium at low cost
INVENTOR(S): Shindo, Yuichiro; Mitsuhoshi, Yoshio
PATENT ASSIGNEE(S): Nikko Materials Co., Ltd., Japan
SOURCE: Jpn. Kokai Tokkyo Koho, 4 pp.
CODEN: JKXXAF
DOCUMENT TYPE: Patent
LANGUAGE: Japanese
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
JP 2003166023	A	20030613	JP 2001-365633	20011130
PRIORITY APPLN. INFO.:			JP 2001-365633	20011130

AB The process comprises adjusting the particle size of the Sb or Te raw

materials by sieving, pickling, melting, and casting. Preferably, the surface slag is removed during melting; the particle size of Sb or Te is 1-5 mm; the pickling is carried out in 0.5-5 N HCl, HNO3, H2SO4, and/or HF at 10-80°; Sb and Te is melted at 650-1100° and 460-1000°, resp.; and the purity of Sb or Te raw material is 2-3 N. The obtained Sb or Te has a purity of ≥4 N.

L6 ANSWER 6 OF 18 CAPLUS COPYRIGHT 2009 ACS on STN
ACCESSION NUMBER: 2002:276223 CAPLUS
DOCUMENT NUMBER: 136:313507
TITLE: High-purity zirconium or hafnium for sputtering targets for fabrication of thin films, manufacture thereof and manufacture of high-purity hafnium or zirconium powder
INVENTOR(S): Shindo, Yuichiro
PATENT ASSIGNEE(S): Nikko Materials Company, Limited, Japan
SOURCE: PCT Int. Appl., 33 pp.
CODEN: PIXXD2
DOCUMENT TYPE: Patent
LANGUAGE: Japanese
FAMILY ACC. NUM. COUNT: 2
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 2002029125	A1	20020411	WO 2001-JP5612	20010629
W: KR, US				
RW: AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, TR				
JP 2002105552	A	20020410	JP 2000-302392	20001002
JP 4104039	B2	20080618		
JP 2002206103	A	20020726	JP 2001-59769	20010305
EP 1329526	A1	20030723	EP 2001-947791	20010629
EP 1329526	B1	20070912		
R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, FI, CY, TR				
US 20030062261	A1	20030403	US 2002-182764	20020731
US 6861030	B2	20050301		
JP 2007119925	A	20070517	JP 2006-325244	20061201
JP 2007169782	A	20070705	JP 2006-325242	20061201

PRIORITY APPLN. INFO.:
JP 2000-302392 A 20001002
JP 2000-341301 A 20001109
JP 2001-59769 A 20010305
WO 2001-JP5612 W 20010629

AB A high purity Zr or Hf contains extremely small amts. of alkali metals such as Na or K, a radioactive element such as U or Th, a transition metal or heavy metal or high m.p. metal such as Fe, Ni, Co, Cr, Cu, Mo, Ta or V, and a gas forming element such as C or O. The Zr or Hf is suitable for sputtering targets used for fabrication of thin films.
REFERENCE COUNT: 5 THERE ARE 5 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L6 ANSWER 7 OF 18 CAPLUS COPYRIGHT 2009 ACS on STN
ACCESSION NUMBER: 2002:270740 CAPLUS
DOCUMENT NUMBER: 136:297690
TITLE: Manufacture of high purity zirconium or hafnium
INVENTOR(S): Shindo, Yuichiro
PATENT ASSIGNEE(S): Nikko Materials Co., Ltd., Japan
SOURCE: Jpn. Kokai Tokkyo Koho, 7 pp.
CODEN: JKXXAF

DOCUMENT TYPE: Patent
LANGUAGE: Japanese
FAMILY ACC. NUM. COUNT: 2
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
JP 2002105552	A	20020410	JP 2000-302392	20001002
JP 4104039	B2	20080618		
WO 2002029125	A1	20020411	WO 2001-JP5612	20010629
W: KR, US				
RW: AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, TR				
EP 1329526	A1	20030723	EP 2001-947791	20010629
EP 1329526	B1	20070912		
R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, FI, CY, TR				
EP 1743949	A1	20070117	EP 2006-20719	20010629
R: DE				
TW 224145	B	20041121	TW 2001-90122569	20010912
US 20030062261	A1	20030403	US 2002-182764	20020731
US 6861030	B2	20050301		
JP 2008179897	A	20080807	JP 2008-28638	20080208

PRIORITY APPLN. INFO.:

JP 2000-302392	A	20001002
JP 2000-341301	A	20001109
JP 2001-59769	A	20010305
EP 2001-947791	A3	20010629
WO 2001-JP5612	W	20010629

AB The content of impurities (except gas component, such as O and C) of the high purity Zr is ≤100 ppm. Preferably, the Zr contains alkali metals (Na, K, ...) ≤1 ppm, radioactive elements (U, Th, ...) ≤5 ppb, transition metals (Fe, Ni, Co, Cr, Cu, ..., except Hf), heavy metals, or high m.p. metals ≤50 ppm, and gas components (O, C, ...) ≤1000 ppm. The content of impurities (except Zr and gas components) if the high purity Hf is ≤100 ppm. Preferably, the Hf contains alkali metals (Na, K, ...) ≤1 ppm, radioactive elements (U, Th, ...) ≤5 ppb, transition metals (Fe, Ni, Co, Cr, Cu, ..., except Zr), heavy metals, or high m.p. metals ≤50 ppm, gas components (O, C, ...) ≤500 ppm, and Zr ≤0.5%. The process comprises removing surface deposits from 2-3 N Zr or Hf sponge raw materials using fluoronitric acid, wrapping the sponge raw materials with the foil of volatile element (Al, Zn, Cu, Mg, etc.), charging the compact material into an electron beam melting furnace, and electron beam melting.

L6 ANSWER 8 OF 18 CAPLUS COPYRIGHT 2009 ACS on STN
ACCESSION NUMBER: 2001:258016 CAPLUS
DOCUMENT NUMBER: 135:22704
TITLE: High purity Hf and Zr target materials for gate insulator films
AUTHOR(S): Shindo, Yuichiro; Miyashita, Hirohito; Okabe, Takeo
CORPORATE SOURCE: New Material Development Center, Nikko Materials Co., Ltd., Japan
SOURCE: Shin Kinzoku Kogyo (2001), 372, 91-96
CODEN: SKKOAM; ISSN: 0583-0419
PUBLISHER: Shin Kinzoku Kyokai
DOCUMENT TYPE: Journal; General Review
LANGUAGE: Japanese

AB A review with no refs. is given on manufacturing technol. of high purity Hf and Zr target materials for gate insulator films.

L6 ANSWER 9 OF 18 CAPLUS COPYRIGHT 2009 ACS on STN
ACCESSION NUMBER: 2001:110024 CAPLUS
DOCUMENT NUMBER: 134:150408
TITLE: Recovery of titanium from aluminum-titanium joined materials
INVENTOR(S): Shindo, Yuichiro; Takemoto, Koichi
PATENT ASSIGNEE(S): Nikko Materials K. K., Japan
SOURCE: Jpn. Kokai Tokkyo Koho, 5 pp.
CODEN: JKXXAF
DOCUMENT TYPE: Patent
LANGUAGE: Japanese
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
JP 2001040432	A	20010213	JP 1999-215161	19990729

PRIORITY APPLN. INFO.: JP 1999-215161 19990729
AB Al-Ti joined materials are treated with an aqueous solution containing HF and H2O2 for preferential dissoln. of Al. The joined materials may especially be sputtering targets.

L6 ANSWER 10 OF 18 USPATFULL on STN
ACCESSION NUMBER: 2008:86451 USPATFULL
TITLE: High Purity Zrb2 Powder and Manufacturing Method Thereof
INVENTOR(S): Shindo, Yuichiro, Ibaraki, JAPAN
Takemoto, Kouichi, Ibaraki, JAPAN
PATENT ASSIGNEE(S): NIPPON MINING & METALS CO., LTD., Tokyo, JAPAN (non-U.S. corporation)

	NUMBER	KIND	DATE	
PATENT INFORMATION:	US 20080075648	A1	20080327	
APPLICATION INFO.:	US 2005-576577	A1	20050905	(11)
	WO 2005-JP16214		20050905	
			20070403	PCT 371 date

	NUMBER	DATE
PRIORITY INFORMATION:	JP 2004-294873	20041007

DOCUMENT TYPE: Utility
FILE SEGMENT: APPLICATION
LEGAL REPRESENTATIVE: HOWSON AND HOWSON, SUITE 210, 501 OFFICE CENTER DRIVE, FT WASHINGTON, PA, 19034, US
NUMBER OF CLAIMS: 14
EXEMPLARY CLAIM: 1
LINE COUNT: 409
CAS INDEXING IS AVAILABLE FOR THIS PATENT.
AB A high purity ZrB.sub.2 powder having a purity of 99.9 wt % or higher excluding C and gas components, and a manufacturing method of such high purity ZrB.sub.2 powder, including the steps of: subjecting a Zr sponge raw material to electron beam melting and casting to prepare an ingot having a purity of 99.9 wt % or higher; cutting the ingot into a cut powder and hydrogenating the cut powder into ZrH.sub.2; pulverizing and dehydrogenating the resultant product into a Zr powder and oxidizing the Zr powder at a high temperature in an oxygen atmosphere into a ZrO.sub.2 fine powder; and mixing the ZrO.sub.2 fine powder with B having a purity of 99.9 wt % or higher so as to reduce ZrO.sub.2 and obtain a ZrB.sub.2 powder having a purity of 99.9 wt % or higher. Purity of the ZrB.sub.2 powder for use in sintering is made to be 99.9 wt % or higher, which is required in the manufacture of a ZrB.sub.2 single crystal substrate with

the high frequency induction heating FZ method (Floating Zone Method), and it is thereby possible to obtain a high purity ZrB.sub.2 powder and the manufacturing method thereof enabling the enlargement of a ZrB.sub.2 single crystal substrate and reduction in the manufacturing costs associated therewith.

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

L6 ANSWER 11 OF 18 USPATFULL on STN

ACCESSION NUMBER:	2007:21102 USPATFULL			
TITLE:	Highly pure hafnium material, target thin film comprising the same and method for producing highly pure hafnium			
INVENTOR(S):	Shindo, Yuichiro, Ibaraki, JAPAN			
PATENT ASSIGNEE(S):	Nikko Materials Co.,Ltd., Tokyo, JAPAN, 105-0001 (non-U.S. corporation)			
	NUMBER	KIND	DATE	
PATENT INFORMATION:	US 20070018138	A1	20070125	
APPLICATION INFO.:	US 2004-565767	A1	20040415	(10)
	WO 2004-JP5389		20040415	
			20060124	PCT 371 date
	NUMBER	DATE		
PRIORITY INFORMATION:	JP 2003-279695	20030725		
DOCUMENT TYPE:	Utility			
FILE SEGMENT:	APPLICATION			
LEGAL REPRESENTATIVE:	HOWSON AND HOWSON, SUITE 210, 501 OFFICE CENTER DRIVE, FT WASHINGTON, PA, 19034, US			
NUMBER OF CLAIMS:	21			
EXEMPLARY CLAIM:	1			
LINE COUNT:	378			

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

AB Provided is a manufacturing method of high purity hafnium including the steps of making aqueous solution of chloride of hafnium, thereafter removing zirconium therefrom via solvent extraction, performing neutralization treatment to obtain hafnium oxide, further performing chlorination to obtain hafnium chloride, obtaining hafnium sponge via reducing said hafnium chloride, and performing electron beam melting to the hafnium sponge in order to obtain a hafnium ingot, as well as a high purity hafnium material obtained thereby and a target and thin film formed from such material. The present invention relates to a high purity hafnium material with reduced zirconium content contained in the hafnium , a target and thin film formed from such material, and the manufacturing method thereof, and provides efficient and stable manufacturing technology, a high purity hafnium material obtained according to such manufacturing technology, and a target and high purity hafnium thin film formed from such material.

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

L6 ANSWER 12 OF 18 USPATFULL on STN

ACCESSION NUMBER:	2006:311383 USPATFULL
TITLE:	High purity hafnium, target and thin film comprising said high purity hafnium, and method for producing high purity hafnium
INVENTOR(S):	Shindo, Yuichiro, c/o Isohara Factory of Nikko Materials Co., Ltd, 187-4, Usuba, Hanakawa-cho,

Kitaibaraki-shi, Ibaraki, JAPAN 319-1535
PATENT ASSIGNEE(S): Nikko Materials Co., Ltd., Tokyo, JAPAN, 105-0001
(non-U.S. corporation)

	NUMBER	KIND	DATE	
PATENT INFORMATION:	US 20060266158	A1	20061130	
APPLICATION INFO.:	US 2004-595660	A1	20041025	(10)
	WO 2004-JP15777		20041025	
			20060503	PCT 371 date

	NUMBER	DATE
PRIORITY INFORMATION:	JP 2003-388737	20031119

DOCUMENT TYPE: Utility
FILE SEGMENT: APPLICATION
LEGAL REPRESENTATIVE: HOWSON AND HOWSON, SUITE 210, 501 OFFICE CENTER DRIVE, FT WASHINGTON, PA, 19034, US
NUMBER OF CLAIMS: 6
EXEMPLARY CLAIM: 1
LINE COUNT: 371
CAS INDEXING IS AVAILABLE FOR THIS PATENT.

AB The present invention relates to high purity hafnium having a purity of 4N or higher excluding zirconium and gas components and an oxygen content of 40 wtppm or less, and a target and thin film formed from such high purity hafnium, and high purity hafnium having a purity of 4N or higher excluding zirconium and gas components and in which the content of sulfur and phosphorus is respectively 10 wtppm or less. The present invention also relates to a high purity hafnium material which uses a hafnium sponge with reduced zirconium as the raw material, and in which the content of oxygen, sulfur and phosphorus containing in the hafnium is reduced, as well as to a target and thin film formed from such material, and to the manufacturing method of high purity hafnium. Thereby provided is efficient and stable manufacturing technology which enables the manufacture of a high purity hafnium material, and a target and thin film formed from such material.

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

L6 ANSWER 13 OF 18 USPATFULL on STN
ACCESSION NUMBER: 2005:267533 USPATFULL
TITLE: High purity copper sulfate and method for production thereof
INVENTOR(S): Shindo, Yuichiro, c/o Isohara Factory of Nikko Materials Co., Ltd., 187-4, Usuba, Hanakawa-cho, Kitaibaraki-shi, Ibaraki, JAPAN 319-1535
Takemoto, Kouichi, Ibaraki, JAPAN
PATENT ASSIGNEE(S): Nikko Materials Co., Ltd., Tokyo, JAPAN, 105-8407
(non-U.S. corporation)

	NUMBER	KIND	DATE	
PATENT INFORMATION:	US 20050232849	A1	20051020	
APPLICATION INFO.:	US 2003-522273	A1	20030812	(10)
	WO 2003-JP10251		20030812	
			20050125	PCT 371 date

	NUMBER	DATE
PRIORITY INFORMATION:	JP 2002-259755	20020905

DOCUMENT TYPE: Utility

FILE SEGMENT: APPLICATION
LEGAL REPRESENTATIVE: HOWSON AND HOWSON, ONE SPRING HOUSE CORPORATION CENTER, BOX 457, 321 NORRISTOWN ROAD, SPRING HOUSE, PA, 19477, US
NUMBER OF CLAIMS: 21
EXEMPLARY CLAIM: 1
NUMBER OF DRAWINGS: 1 Drawing Page(s)
LINE COUNT: 497
CAS INDEXING IS AVAILABLE FOR THIS PATENT.

AB High purity copper sulfate having a purity of 99.99% or higher and in which the content of transition metals such as Fe, Cr, Ni is 3 wtppm or less; and a method for producing such high purity copper sulfate which includes the steps of dissolving copper sulfate crystals in purified water, performing evaporative concentration thereto, removing the crystals precipitated initially, performing further evaporative concentration to effect crystallization, and subjecting this to filtration to obtain high purity copper sulfate. This manufacturing method of high purity copper sulfate allows the efficient removal of impurities from commercially available copper sulfate crystals at a low cost through dissolution with purified water and thermal concentration.

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

L6 ANSWER 14 OF 18 USPATFULL on STN
ACCESSION NUMBER: 2003:90917 USPATFULL
TITLE: High purity zirconium or hafnium, sputtering target comprising the high purity zirconium of hafnium and thin film formed using the target, and method for producing high purity zirconium or hafnium and method for producing powder of high purity zirconium or hafnium
INVENTOR(S): Shindo, Yuichiro, Ibaraki, JAPAN

	NUMBER	KIND	DATE	
PATENT INFORMATION:	US 20030062261	A1	20030403	
	US 6861030	B2	20050301	
APPLICATION INFO.:	US 2002-182764	A1	20020731	(10)
	WO 2001-JP5612		20010629	

	NUMBER	DATE
PRIORITY INFORMATION:	JP 2000-302392	20001002
	JP 2000-341301	20001109
	JP 2001-2000059769	20010305

DOCUMENT TYPE: Utility
FILE SEGMENT: APPLICATION
LEGAL REPRESENTATIVE: HOWSON AND HOWSON, ONE SPRING HOUSE CORPORATION CENTER, BOX 457, 321 NORRISTOWN ROAD, SPRING HOUSE, PA, 19477
NUMBER OF CLAIMS: 26
EXEMPLARY CLAIM: 1
LINE COUNT: 923
CAS INDEXING IS AVAILABLE FOR THIS PATENT.

AB The present invention relates to high-purity zirconium or hafnium with minimal impurities, particularly where the content of alkali metal elements such as Na, K; radioactive elements such as U, Th; transitional metals or heavy metals or high melting point metal elements such as Fe, Ni, Co, Cr, Cu, Mo, Ta, V; and gas components such as C, O, etc. is extremely reduced, as well as to an inexpensive manufacturing method of such high-purity zirconium or hafnium, thereby reducing the impurities hindering the guarantee of the operational performance of semiconductors. The present invention further

relates to an inexpensive and safe manufacturing method of high-purity zirconium or hafnium powder from hydrogenated high-purity zirconium or hafnium powder.

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

L6 ANSWER 15 OF 18 USPATFULL on STN

ACCESSION NUMBER:	2003:27843 USPATFULL		
TITLE:	Method of producing a higher-purity metal		
INVENTOR(S):	Shindo, Yuichiro, Ibaraki, JAPAN Yamaguchi, Syunichiro, Ibaraki, JAPAN Takemoto, Kouichi, Ibaraki, JAPAN		
	NUMBER	KIND	DATE
PATENT INFORMATION:	US 20030019759	A1	20030130
	US 6896788	B2	20050524
APPLICATION INFO.:	US 2002-130244	A1	20020515 (10)
	WO 2001-JP817		20010206
	NUMBER	DATE	
PRIORITY INFORMATION:	JP 2000-149589	20000522	
	JP 2000-286494	20000921	
	JP 2000-343468	20001110	
DOCUMENT TYPE:	Utility		
FILE SEGMENT:	APPLICATION		
LEGAL REPRESENTATIVE:	HOWSON AND HOWSON, ONE SPRING HOUSE CORPORATION CENTER, BOX 457, 321 NORRISTOWN ROAD, SPRING HOUSE, PA, 19477		
NUMBER OF CLAIMS:	10		
EXEMPLARY CLAIM:	1		
NUMBER OF DRAWINGS:	1 Drawing Page(s)		
LINE COUNT:	529		

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

AB A method of producing a higher purity metal comprising the step of electrolyzing a coarse metal material by a primary electrolysis to obtain a primary electrodeposited metal, the step of electrolyzing the material with the primary electrodeposited metal obtained in the primary electrolysis step used as an anode to obtain a higher purity electrolyte for secondary electrolysis, and the step of further performing secondary electrolysis by employing higher purity electrolytic solution than said electrolytic solution with said primary electrodeposited metal as an anode, whereby providing an electro-refining method that effectively uses electrodes and an electrolyte produced in a plurality of electro-refining steps, reuses the flow of an electrolyte in the system, reduces organic matter-caused oxygen content, and can effectively produce a high purity metal.

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

L6 ANSWER 16 OF 18 EPFULL COPYRIGHT 2009 EPO/FIZ KA on STN

ACCESSION NUMBER:	2008:47898 EPFULL
ENTRY DATE PATENT:	20081210
ENTRY DATE PUBLICATION:	20090121
UPDATE DATE PUBLICAT.:	20090121
DATA UPDATE DATE:	20090121
DATA UPDATE WEEK:	200904
TITLE (ENGLISH):	High purity hafnium, high purity hafnium target and method of manufacturing a thin film using high purity hafnium
TITLE (FRENCH):	Hafnium de grande purete, cible comprenant

celui-ci, et procede de production d'un film mince en hafnium de grande purete

TITLE (GERMAN): Hochreines Hafnium, hochreines Hafniumtarget und Verfahren zum Herstellen eines duennen Filmes unter Verwendung hochreinen Hafnuims

INVENTOR(S): SHINDO, Yuichiro, c/o Isohara Factory Nikko Mat. Co., Ltd, 187-4, K, Hanakawa-cho Ibaraki 319-1535, JP

PATENT APPLICANT(S): Nippon Mining & Metals Co., Ltd., 10-1, Toranomon 2-chome Minato-ku, Tokyo 105-0001, JP

PATENT APPL. NUMBER: 7619320

AGENT: Hoarton, Lloyd Douglas Charles, Forrester & Boehmert Pettenkoferstrasse 20-22, 80336 Munich, DE

AGENT NUMBER: 92853/1

DOCUMENT TYPE: Patent

LANGUAGE OF FILING: English

LANGUAGE OF PUBL.: English

LANGUAGE OF PROCEDURE: English

LANGUAGE OF TITLE: German; English; French

PATENT INFO TYPE: EPA2 Application published without search report

PATENT INFORMATION:

NUMBER	KIND	DATE	
EP 2017360	A2	20090121	

DESIGNATED STATES: DE GB NL

APPLICATION INFO.:	EP 2008-165172	A 20041025	
RELATED DOC. INFO.:	EP 2004-792914 Application	20041025	EP 1686196 Parent
PRIORITY INFO.:	JP 2003-388737	A 20031119	

ABEN

The present invention relates to high purity hafnium having a purity of 4N or higher excluding zirconium and gas components and an oxygen content of 40wtppm or less, and a target and thin film formed from such high purity hafnium, and high purity hafnium having a purity of 4N or higher excluding zirconium and gas components and in which the content of sulfur and phosphorus is respectively 10wtppm or less. The present invention also relates to a high purity hafnium material which uses a hafnium sponge with reduced zirconium as the raw material, and in which the content of oxygen, sulfur and phosphorus containing in the hafnium is reduced, as well as to a target and thin film formed from such material, and to the manufacturing method of high purity hafnium . Thereby provided is efficient and stable manufacturing technology which enables the manufacture of a high purity hafnium material, and a target and thin film formed from such material.

L6 ANSWER 17 OF 18 EPFULL COPYRIGHT 2009 EPO/FIZ KA on STN

ACCESSION NUMBER: 2004:132161 EPFULL

ENTRY DATE PATENT: 20050727

ENTRY DATE PUBLICATION: 20060803

UPDATE DATE PUBLICAT.: 20090114

DATA UPDATE DATE: 20090114

DATA UPDATE WEEK: 200903

TITLE (ENGLISH): Method of manufacturing high purity hafnium

TITLE (FRENCH): Procede de fabrication de hafnium de grande purete

TITLE (GERMAN): Verfahren zum Herstellen von hochreinem Hafnium

INVENTOR(S): SHINDO, Yuichiro, c/o Isohara Factory, Nikko Mat. Co., Ltd, 187-4, Usuba, Hanakawa-cho, Kitaibaraki-shi, Ibaraki 319-1535, JP

PATENT APPLICANT(S): Nippon Mining & Metals Co., Ltd., 10-1, Toranomon

2-chome, Minato-ku Tokyo, JP
PATENT APPL. NUMBER: 7427930
AGENT: Hoarton, Lloyd Douglas Charles, Forrester & Boehmert Pettenkoferstrasse 20-22, 80336 Munich, DE
AGENT NUMBER: 9285371
DOCUMENT TYPE: Patent
LANGUAGE OF FILING: Japanese
LANGUAGE OF PUBL.: English
LANGUAGE OF PROCEDURE: English
LANGUAGE OF TITLE: German; English; French
PATENT INFO TYPE: EPA1 Application published with search report
PATENT INFORMATION:
PATENT INFORMATION:

NUMBER	KIND	DATE
NUMBER	KIND	DATE
EP 1686196	A1	20060802
WO 2005049882		20050602

DESIGNATED STATES: DE GB NL

APPLICATION INFO.:	EP 2004-792914	A	20041025
	WO 2004-JP15777	A	20041025
RELATED DOC. INFO.:	EP 2008-165172 Divisional Application		20080925
PRIORITY INFO.:	JP 2003-388737	A	20031119

ABEN
The present invention relates to high purity hafnium having a purity of 4N or higher excluding zirconium and gas components and an oxygen content of 40wtppm or less, and a target and thin film formed from such high purity hafnium, and high purity hafnium having a purity of 4N or higher excluding zirconium and gas components and in which the content of sulfur and phosphorus is respectively 10wtppm or less. The present invention also relates to a high purity hafnium material which uses a hafnium sponge with reduced zirconium as the raw material, and in which the content of oxygen, sulfur and phosphorus containing in the hafnium is reduced; as well as to a target and thin film formed from such material, and to the manufacturing method of high purity hafnium . Thereby provided is efficient and stable manufacturing technology which enables the manufacture of a high purity hafnium material, and a target and thin film formed from such material.

L6 ANSWER 18 OF 18 EPFULL COPYRIGHT 2009 EPO/FIZ KA on STN

ACCESSION NUMBER: 2004:83541 EPFULL
ENTRY DATE PATENT: 20050330
ENTRY DATE PUBLICATION: 20060503
UPDATE DATE PUBLICAT.: 20071128
DATA UPDATE DATE: 20071128
DATA UPDATE WEEK: 200748
TITLE (ENGLISH): HIGHLY PURE HAFNIUM MATERIAL, TARGET THIN FILM COMPRISING THE SAME AND METHOD FOR PRODUCING HIGHLY PURE HAFNIUM
TITLE (FRENCH): MATERIAU EN HAFNIUM TRES PUR, FILM MINCE DE CIBLE COMPRENANT CE MATERIAU ET PROCEDE DE PRODUCTION DE HAFNIUM TRES PUR
TITLE (GERMAN): HOCHREINES HAFNIUMMATERIAL, TARGETDUeNNFILM DARAUS UND VERFAHREN ZUR HERSTELLUNG VON HOCHREINEM HAFNIUM
INVENTOR(S): SHINDO, Yuichiro,c/o Isohara Factory of Nikko, Mat. Co., Ltd,187-4, Usuba,Hanakawa-cho, Kitaibaraki-shi,Ibaraki 319-1535, JP

PATENT APPLICANT(S): Nippon Mining & Metals Co., Ltd., 10-1, Toranomon 2-chome, Minato-kuTokyo, JP
PATENT APPL. NUMBER: 7427930
AGENT: Hoarton, Lloyd Douglas Charles, Forrester & Boehmert Pettenkoferstrasse 20-22, 80336 Muenchen, DE
AGENT NUMBER: 80191
DOCUMENT TYPE: Patent
LANGUAGE OF FILING: Japanese
LANGUAGE OF PUBL.: English
LANGUAGE OF PROCEDURE: English
LANGUAGE OF TITLE: German; English; French
PATENT INFO TYPE: EPA1 Application published with search report
PATENT INFORMATION:
PATENT INFORMATION:

NUMBER	KIND	DATE
NUMBER	KIND	DATE
EP 1652944	A1	20060503
WO 2005010220		20050203

DESIGNATED STATES: DE
APPLICATION INFO.: EP 2004-727690 A 20040415
WO 2004-JP5389 A 20040415
PRIORITY INFO.: JP 2003-279695 A 20030725

ABEN
Provided is a manufacturing method of high purity hafnium including the steps of making aqueous solution of chloride of hafnium, thereafter removing zirconium therefrom via solvent extraction, performing neutralization treatment to obtain hafnium oxide, further performing chlorination to obtain hafnium chloride, obtaining hafnium sponge via reducing said hafnium chloride, and performing electron beam melting to the hafnium sponge in order to obtain a hafnium ingot, as well as a high purity hafnium material obtained thereby and a target and thin film formed from such material. The present invention relates to a high purity hafnium material with reduced zirconium content contained in the hafnium, a target and thin film formed from such material, and the manufacturing method thereof, and provides efficient and stable manufacturing technology, a high purity hafnium material obtained according to such manufacturing technology, and a target and high purity hafnium thin film formed from such material.

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FILE COVERS 1907 - 25 Feb 2009 VOL 150 ISS 9
FILE LAST UPDATED: 24 Feb 2009 (20090224/ED)

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reclassification data for the third quarter of 2008.

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http://www.cas.org/legal/infopolicy.html

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=> s (purity/it and hafnium/it)
         30109 PURITY/IT
           100 PURITIES/IT
         30190 PURITY/IT
                 ((PURITY OR PURITIES)/IT)
         46613 HAFNIUM/IT
L8         172 (PURITY/IT AND HAFNIUM/IT)

=> d scan l8

L8    172 ANSWERS   HCAPLUS  COPYRIGHT 2009 ACS on STN
CC   79-6 (Inorganic Analytical Chemistry)
TI   Inductively coupled plasma atomic emission determination of impurities in
     high-purity niobium and tantalum oxides after separation of the matrix on
     a Polyorgs VII sorbent
ST   ICP AES niobium tantalum oxide analysis; niobium oxide analysis impurity
     ICP AES; tantalum oxide analysis impurity ICP AES
IT   Plasma atomic emission spectrometry
     Sorbents
        (inductively coupled plasma atomic emission determination of impurities in
high-
        purity niobium and tantalum oxides after separation of the matrix on
        a Polyorgs VII sorbent)
IT   Trace elements, analysis
     RL: ANT (Analyte); PEP (Physical, engineering or chemical process); ANST
     (Analytical study); PROC (Process)
        (inductively coupled plasma atomic emission determination of impurities in
high-
        purity niobium and tantalum oxides after separation of the matrix on
        a Polyorgs VII sorbent)
IT   Sorption
        (of trace elements on Polyorgs VII)
IT   1313-96-8, Niobium oxide   1314-61-0, Tantalum oxide
     RL: AMX (Analytical matrix); ANST (Analytical study)
        (inductively coupled plasma atomic emission determination of impurities in
high-
        purity niobium and tantalum oxides after separation of the matrix on
        a Polyorgs VII sorbent)
IT   7429-90-5, Aluminum, analysis   7439-89-6, Iron, analysis   7439-91-0,
     Lanthanum, analysis   7439-92-1, Lead, analysis   7439-96-5, Manganese,
     analysis   7439-98-7, Molybdenum, analysis   7440-02-0, Nickel, analysis
     7440-03-1, Niobium, analysis   7440-24-6, Strontium, analysis   7440-25-7,
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Tantalum, analysis 7440-32-6, Titanium, analysis 7440-33-7, Tungsten, analysis 7440-36-0, Antimony, analysis 7440-39-3, Barium, analysis 7440-42-8, Boron, analysis 7440-43-9, Cadmium, analysis 7440-47-3, Chromium, analysis 7440-48-4, Cobalt, analysis 7440-50-8, Copper, analysis 7440-58-6, Hafnium, analysis 7440-62-2, Vanadium, analysis 7440-65-5, Yttrium, analysis 7440-67-7, Zirconium, analysis 7440-70-2, Calcium, analysis
RL: ANT (Analyte); PEP (Physical, engineering or chemical process); ANST (Analytical study); PROC (Process)
(inductively coupled plasma atomic emission determination of impurities in high-purity niobium and tantalum oxides after separation of the matrix on a Polyorgs VII sorbent)
IT 96511-02-3, Polyorgs VII
RL: ARU (Analytical role, unclassified); ANST (Analytical study)
(inductively coupled plasma atomic emission determination of impurities in high-purity niobium and tantalum oxides after separation of the matrix on a Polyorgs VII sorbent)

HOW MANY MORE ANSWERS DO YOU WISH TO SCAN? (1):1

L8 172 ANSWERS HCAPLUS COPYRIGHT 2009 ACS on STN
IC ICM C03B037-027
INCL 065003110
CC 57-1 (Ceramics)
TI Process for making bulk heavy metal fluoride glasses
ST heavy metal fluoride glass; aluminum fluoride glass; zirconium fluoride glass; hafnium fluoride glass; lanthanum fluoride glass; sodium fluoride glass
IT Glass, nonoxide
(optical, IR-transmitting, aluminum barium hafnium lanthanum fluoride, manufacture of, high-purity fluorides in)
IT Glass, nonoxide
(optical, IR-transmitting, aluminum barium lanthanum sodium zirconium fluoride, manufacture of, high-purity fluorides in)
IT Glass, nonoxide
(optical, IR-transmitting, aluminum barium lanthanum zirconium fluoride, manufacture of, high-purity fluorides in)
IT Glass, nonoxide
(optical, IR-transmitting, fluoride, manufacture of, high-purity fluorides in)

HOW MANY MORE ANSWERS DO YOU WISH TO SCAN? (1):1

L8 172 ANSWERS HCAPLUS COPYRIGHT 2009 ACS on STN
IC ICM C01B013-32
ICS C01G015-00; C01G017-02; C01G019-02; C01G027-02
CC 49-8 (Industrial Inorganic Chemicals)
TI Manufacture of high-purity powdered amorphous chemical compounds
ST powd amorphous compd manuf neutralization temp
IT 1310-53-8P, Germanium oxide, preparation 1312-43-2P, Indium oxide 1332-29-2P, Tin oxide 12024-21-4P, Gallium oxide 12055-23-1P, Hafnium oxide 20665-52-5P, Gallium hydroxide oxide (Ga(OH)O)
RL: IMF (Industrial manufacture); PREP (Preparation)
(amorphous; manufacture of high-purity powdered amorphous chemical compds.)
IT 7646-78-8, Tin tetrachloride, processes 10038-98-9, Germanium tetrachloride 13499-05-3, Hafnium tetrachloride 20661-21-6, Indium hydroxide
RL: MOA (Modifier or additive use); PEP (Physical, engineering or chemical process); PROC (Process); USES (Uses)

(manufacture of high-purity powdered amorphous chemical compds.)

HOW MANY MORE ANSWERS DO YOU WISH TO SCAN? (1):1

L8 172 ANSWERS HCAPLUS COPYRIGHT 2009 ACS on STN
CC 73-11 (Optical, Electron, and Mass Spectroscopy and Other Related Properties)
Section cross-reference(s): 57, 78
TI High purity zirconium tetrafluoride for fluoride glass applications
ST zirconium fluoride optical glass
IT Optical fibers
(zirconium tetrafluoride preparation for use in)
IT Glass, nonoxide
RL: PRP (Properties)
(zirconium fluoride, for optical applications)
IT 2551-62-4, Sulfur hexafluoride 7783-54-2, Nitrogen trifluoride 7783-61-1 7783-82-6, Tungsten hexafluoride
RL: PRP (Properties)
(for high purity optical glasses)
IT 7784-18-1P, Aluminum trifluoride 7787-32-8P, Barium difluoride 13709-38-1P, Lanthanum trifluoride 13709-52-9P, Hafnium tetrafluoride
RL: FORM (Formation, nonpreparative); PREP (Preparation)
(formation of, for high purity optical glasses)
IT 7439-89-6, Iron, uses and miscellaneous 7440-02-0, Nickel, uses and miscellaneous 7440-47-3, Chromium, uses and miscellaneous 7440-48-4, Cobalt, uses and miscellaneous 7440-50-8, Copper, uses and miscellaneous
RL: USES (Uses)
(in zirconium fluoride high purity optical glass)
IT 7783-64-4P, Zirconium tetrafluoride
RL: PREP (Preparation)
(preparation of, for optical fiber applications)

HOW MANY MORE ANSWERS DO YOU WISH TO SCAN? (1):1

L8 172 ANSWERS HCAPLUS COPYRIGHT 2009 ACS on STN
CC 73-11 (Optical, Electron, and Mass Spectroscopy and Other Related Properties)
Section cross-reference(s): 57
TI Development of high-purity fluoride glasses and light guides for device fabrication
ST purity fluoride glass light guide device fabrication
IT Absorptivity
Particle size distribution
(development of high-purity fluoride glasses and light guides for device fabrication)
IT Fluoride glasses
Optical glass
ZBLAN glasses
RL: PNU (Preparation, unclassified); PRP (Properties); PREP (Preparation)
(development of high-purity fluoride glasses and light guides for device fabrication)
IT Rare earth metals, properties
RL: MOA (Modifier or additive use); PRP (Properties); USES (Uses)
(ions; development of high-purity fluoride glasses and light guides for device fabrication)
IT 7440-00-8, Neodymium, properties 7440-10-0, Praseodymium, properties 7440-27-9, Terbium, properties 7440-30-4, Thulium, properties 7440-52-0, Erbium, properties 7440-65-5, Yttrium, properties 14913-52-1, Neodymium(3+), properties 18472-30-5, Erbium(3+), properties 22537-40-2, Yttrium(3+), properties 22541-14-6, Praseodymium(3+), properties 22541-20-4, Terbium(3+), properties 22541-23-7,

Thulium(3+), properties
RL: MOA (Modifier or additive use); PRP (Properties); USES (Uses)
(development of high-purity fluoride glasses and light guides for device fabrication)
IT 7429-90-5, Aluminum, occurrence 7439-91-0, Lanthanum, occurrence 7439-92-1, Lead, occurrence 7439-95-4, Magnesium, occurrence 7440-23-5, Sodium, occurrence 7440-24-6, Strontium, occurrence 7440-39-3, Barium, occurrence 7440-58-6, Hafnium, occurrence 7440-67-7, Zirconium, occurrence 7440-70-2, Calcium, occurrence 7440-74-6, Indium, occurrence 7681-49-4, Sodium fluoride, occurrence 7782-41-4, Fluorine, occurrence 7783-40-6, Magnesium fluoride 7783-46-2, Lead fluoride 7783-48-4, Strontium fluoride 7783-52-0, Indium fluoride 7783-64-4, Zirconium fluoride 7784-18-1, Aluminum fluoride 7787-32-8, Barium fluoride 7789-75-5, Calcium fluoride, occurrence 13708-63-9, Terbium fluoride 13709-38-1, Lanthanum fluoride 13709-42-7, Neodymium fluoride 13709-46-1, Praseodymium fluoride 13709-49-4, Yttrium fluoride 13709-52-9, Hafnium fluoride 13760-79-7, Thulium fluoride 13760-83-3, Erbium fluoride
RL: OCU (Occurrence, unclassified); OCCU (Occurrence)
(development of high-purity fluoride glasses and light guides for device fabrication)
IT 7439-89-6, Iron, occurrence 7440-02-0, Nickel, occurrence 7440-48-4, Cobalt, occurrence 7440-50-8, Copper, occurrence
RL: OCU (Occurrence, unclassified); OCCU (Occurrence)
(impurities; development of high-purity fluoride glasses and light guides for device fabrication)

HOW MANY MORE ANSWERS DO YOU WISH TO SCAN? (1):1

L8 172 ANSWERS HCAPLUS COPYRIGHT 2009 ACS on STN
CC 56-10 (Nonferrous Metals and Alloys)
TI AES observations of refractory metal surfaces after a short time of indoor exposure
ST titanium surface oxygen carbon; zirconium surface oxygen carbon; hafnium surface oxygen carbon; vanadium surface oxygen carbon; niobium surface oxygen carbon; tantalum surface oxygen carbon; chromium surface oxygen carbon; tungsten surface oxygen carbon; refractory metal sputtering argon ion
IT Sputtering
(of refractory metals, by argon ions, AES anal. of carbon and oxygen after indoor exposure in relation to)
IT 7440-44-0, Carbon, analysis 7782-44-7, Oxygen, analysis
RL: ANST (Analytical study)
(in surface layers of refractory metals, after indoor exposure, AES anal. of, argon ion sputtering in relation to)
IT 7440-37-1D, Argon, ions, uses and miscellaneous
RL: USES (Uses)
(sputtering by, of refractory metal surfaces, AES anal. of carbon and oxygen in relation to)
IT 7439-98-7, Molybdenum, properties 7440-03-1, Niobium, properties 7440-25-7, Tantalum, properties 7440-32-6, Titanium, properties 7440-33-7, Tungsten, properties 7440-47-3, Chromium, properties 7440-58-6, Hafnium, properties 7440-62-2, Vanadium, properties 7440-67-7, Zirconium, properties
RL: PRP (Properties)
(surface of high-purity, after indoor exposure, carbon and oxygen in, AES anal. of)

HOW MANY MORE ANSWERS DO YOU WISH TO SCAN? (1):1

L8 172 ANSWERS HCAPLUS COPYRIGHT 2009 ACS on STN
CC 54-2 (Extractive Metallurgy)

TI Extraction flow sheet for obtaining zirconium of nuclear-power-industry purity
ST low hafnium zirconium extn flow scheme
IT Reduction
(electrolytic; in scheme for extraction from industrial waste of low-Hf zirconium of nuclear-power-industry purity)
IT 126-73-8, Tributyl phosphate, processes
RL: CPS (Chemical process); NUU (Other use, unclassified); PEP (Physical, engineering or chemical process); PROC (Process); USES (Uses)
(scheme for extraction from industrial waste of low-Hf zirconium of nuclear-power-industry purity)
IT 7697-37-2, Nitric acid, reactions
RL: NUU (Other use, unclassified); RCT (Reactant); RACT (Reactant or reagent); USES (Uses)
(scheme for extraction from industrial waste of low-Hf zirconium of nuclear-power-industry purity)
IT 7440-67-7P, Zirconium, preparation
RL: PUR (Purification or recovery); PREP (Preparation)
(scheme for extraction from industrial waste of low-Hf zirconium of nuclear-power-industry purity)
IT 7440-58-6, Hafnium, processes
RL: REM (Removal or disposal); PROC (Process)
(scheme for extraction from industrial waste of low-Hf zirconium of nuclear-power-industry purity)

HOW MANY MORE ANSWERS DO YOU WISH TO SCAN? (1):1

L8 172 ANSWERS HCAPLUS COPYRIGHT 2009 ACS on STN
IC ICM C22C027-06
INCL 420428000
CC 56-3 (Nonferrous Metals and Alloys)
TI Chromium alloys suitable for manufacture of sheet and welding rod
ST chromium alloying formability sheet; sintered chromium alloy formability; welding rod chromium alloy formability; ingot rod chromium alloy formability
IT Welds
(chromium alloy, ductility of, purity control for)
IT Group VB elements
Group VIB elements
Group VIIB elements
Rare earth metals, uses
RL: USES (Uses)
(chromium microalloyed with, for sheet manufacture)
IT Welding
(rods, chromium-rich alloys for, with purity control for ductility)
IT 7429-90-5, Aluminum, properties 7440-32-6, Titanium, properties 7440-58-6, Hafnium, properties 7440-65-5, Yttrium, properties 7440-67-7, Zirconium, properties
RL: PRP (Properties)
(chromium microalloyed with, for sheet manufacture)
IT 12650-17-8P 12792-98-2P 53070-41-0P 67555-61-7P 75329-96-3P 81497-40-7P 94470-13-0P 96915-91-2P 99403-40-4P 122355-15-1P 125756-42-5P 125756-43-6P 125756-44-7P 125756-45-8P 125779-07-9P 125779-08-0P 125779-09-1P 125779-10-4P 125779-11-5P 125779-12-6P 125779-13-7P 125779-14-8P 125779-15-9P 125779-16-0P 125779-17-1P 125944-67-4P 125944-68-5P 125944-69-6P 125944-70-9P 125944-71-0P 144543-89-5P 144543-90-8P 144544-05-8P
RL: PEP (Physical, engineering or chemical process); PREP (Preparation); PROC (Process)
(manufacture of, purity control in, for sheet formability)
IT 96915-90-1P 116125-88-3P 122401-91-6P 126057-29-2P 126057-30-5P

126057-31-6P 126057-32-7P 126057-33-8P 126057-34-9P 126057-35-0P
126057-36-1P 126057-37-2P 126057-38-3P 126057-39-4P 126057-40-7P
126057-41-8P 126057-42-9P 126057-43-0P 126057-44-1P 126057-45-2P
126057-46-3P 126057-47-4P 126057-49-6P 126057-50-9P 126057-51-0P
126057-70-3P 126057-71-4P 126057-75-8P 126102-07-6P 126102-08-7P
126102-09-8P 126102-10-1P 144515-09-3P 144515-10-6P 144515-11-7P
144515-31-1P
RL: PEP (Physical, engineering or chemical process); PREP (Preparation);
PROC (Process)
(manufacture of, purity control in, for welding rods with good
ductility)
IT 7440-47-3, Chromium, properties
RL: PRP (Properties)
(microalloying of, for sheet manufacture, purity control in)

HOW MANY MORE ANSWERS DO YOU WISH TO SCAN? (1):1

L8 172 ANSWERS HCAPLUS COPYRIGHT 2009 ACS on STN
CC 75-1 (Crystallography and Liquid Crystals)
Section cross-reference(s): 49
TI Organometallic compounds, their manufacture, and manufacture of
metal-containing films by metal organic chemical vapor deposition
ST organometal compd manuf heating crude product oxygen atm MOCVD
IT Organometallic compounds
RL: IMF (Industrial manufacture); PUR (Purification or recovery); RCT
(Reactant); PREP (Preparation); RACT (Reactant or reagent)
(high-purity organometal compds. and their manufacture by heating
crude products in O-containing atmospheric for metal-containing film
manufacture by MOCVD)
IT Vapor deposition process
(metalorg.; high-purity organometal compds. and their manufacture
by heating crude products in O-containing atmospheric for metal-containing
film manufacture
by MOCVD)
IT 1304-28-5P, Baria, preparation 1314-11-0P, Strontium oxide, preparation
1314-23-4P, Zirconia, preparation 1317-36-8P, Lead oxide (PbO),
preparation 7631-86-9P, Silica, preparation 12055-23-1P, Hafnia
13463-67-7P, Titania, preparation
RL: IMF (Industrial manufacture); TEM (Technical or engineered material
use); PREP (Preparation); USES (Uses)
(MOCVD film; high-purity organometal compds. and their manufacture
by heating crude products in O-containing atmospheric for metal-containing
film manufacture
by MOCVD)
IT 7782-44-7, Oxygen, uses
RL: NUU (Other use, unclassified); USES (Uses)
(heating atmospheric; high-purity organometal compds. and their
manufacture by heating crude products in O-containing atmospheric for
metal-containing film
manufacture by MOCVD)
IT 1624-01-7P, Tetrakisdimethylaminosilane 17594-47-7P, Barium
bis(dipivaloylmethanate) 19824-55-6P, Tetrakisdiethylaminohafnium
21319-43-7P, Lead bis(dipivaloylmethanate) 36830-74-7P, Strontium
bis(dipivaloylmethanate) 69990-43-8P,
Tetrakis(2,6-dimethyl-3,5-heptanedionato)zirconium 144665-26-9P
RL: IMF (Industrial manufacture); PUR (Purification or recovery); RCT
(Reactant); PREP (Preparation); RACT (Reactant or reagent)
(high-purity organometal compds. and their manufacture by heating
crude products in O-containing atmospheric for metal-containing film
manufacture by MOCVD)
IT 816-43-3P, Diethylaminolithium 3585-33-9P, Dimethylaminolithium
10026-04-7P, Silicon tetrachloride

RL: IMF (Industrial manufacture); RCT (Reactant); PREP (Preparation); RACT (Reactant or reagent)
(organometallic compound from; high-purity organometal compds. and their manufacture by heating crude products in O-containing atmospheric for
metal-containing film manufacture by MOCVD)
IT 109-72-8, Butyllithium, reactions 109-89-7, Diethylamine, reactions 546-68-9, Titanium isopropoxide 1071-76-7, Zirconium butoxide 1118-71-4, Dipivaloylmethane 1335-25-7, Lead oxide 7440-24-6, Strontium, reactions 7440-39-3, Barium, reactions 13499-05-3, Hafnium tetrachloride 18362-64-6, 2,6-Dimethyl-3,5-heptanedione
RL: RCT (Reactant); RACT (Reactant or reagent)
(organometallic compound from; high-purity organometal compds. and their manufacture by heating crude products in O-containing atmospheric for
metal-containing film manufacture by MOCVD)

HOW MANY MORE ANSWERS DO YOU WISH TO SCAN? (1):1

L8 172 ANSWERS HCAPLUS COPYRIGHT 2009 ACS on STN
CC 56-10 (Nonferrous Metals and Alloys)
TI The effect of purity on the high-temperature oxidation of hafnium
ST hafnium oxidn purity effect
IT Oxidation
(purity effect on high-temperature oxidation of hafnium)
IT 12055-23-1, Hafnium oxide (HfO2)
RL: FMU (Formation, unclassified); FORM (Formation, nonpreparative)
(high-temperature oxidation of hafnium with formation of)
IT 7440-58-6, Hafnium, processes
RL: PEP (Physical, engineering or chemical process); PROC (Process)
(purity effect on high-temperature oxidation of hafnium)

HOW MANY MORE ANSWERS DO YOU WISH TO SCAN? (1):1

L8 172 ANSWERS HCAPLUS COPYRIGHT 2009 ACS on STN
CC 54-2 (Extractive Metallurgy)
Section cross-reference(s): 49, 75
TI High purity hafnium compounds, organic hafnium compounds for forming thin films, pure hafnium, hafnium single crystals, and manufacture of high purity hafnium
ST hafnium purifn removal zirconium extn solvent tributyl phosphate; tin film org hafnium high purity; single crystal hafnium high purity
IT Solvent extraction
(high purity hafnium (compds.), and manufacture of high purity hafnium nitrate by tri-Bu phosphate solvent extraction)
IT 126-73-8, Tributyl phosphate, uses
RL: NUU (Other use, unclassified); USES (Uses)
(extraction solvents; high purity hafnium (compds.), and manufacture of high purity hafnium nitrate by tri-Bu phosphate solvent extraction)
IT 15509-05-4P, Hafnium tetranitrate
RL: IMF (Industrial manufacture); PEP (Physical, engineering or chemical process); PUR (Purification or recovery); PREP (Preparation); PROC (Process)
(high purity hafnium (compds.), and manufacture of high purity hafnium nitrate by tri-Bu phosphate solvent extraction)
IT 7440-58-6P, Hafnium, preparation
RL: IMF (Industrial manufacture); PUR (Purification or recovery); PREP (Preparation)
(high purity hafnium (compds.), and manufacture of high

purity hafnium nitrate by tri-Bu phosphate solvent extraction)

IT 12055-23-1P, Hafnium oxide 13499-05-3P, Hafnium tetrachloride
RL: IMF (Industrial manufacture); PEP (Physical, engineering or chemical process); PREP (Preparation); PROC (Process)
(high purity; high purity hafnium (compds.), and manufacture of high purity hafnium nitrate by tri-Bu phosphate solvent extraction)

HOW MANY MORE ANSWERS DO YOU WISH TO SCAN? (1):1

L8 172 ANSWERS HCAPLUS COPYRIGHT 2009 ACS on STN
IC ICM C07F017-00
CC 29-10 (Organometallic and Organometalloidal Compounds)
Section cross-reference(s): 67
TI A method of preparing high purity racemic metallocene alkyls and use thereof
ST racemic metallocene alkyl prepn polymn catalyst; zirconocene alkyl racemic prepn polymn catalyst
IT Polymerization catalysts
(preparation of high purity racemic metallocene alkyls as polymerization catalysts)
IT 143301-15-9P 150995-51-0P 179823-03-1P
RL: CAT (Catalyst use); SPN (Synthetic preparation); PREP (Preparation); USES (Uses)
(preparation of high purity racemic metallocene alkyls as polymerization catalysts)
IT 75-16-1, Methylmagnesium bromide 7550-45-0, Titanium tetrachloride, reactions 7705-07-9, Titanium trichloride, reactions 10026-11-6, Tetrachlorozirconium 13499-05-3, Hafnium tetrachloride 21959-01-3, Zirconium tetrachloride bistetrahydrofuran 21959-05-7, Hafnium tetrachloride bistetrahydrofuran 31011-57-1, Titanium tetrachloride bistetrahydrofuran 124684-47-5 150096-53-0 171177-19-8 174702-72-8 179823-04-2 179823-05-3 179823-06-4 179823-07-5 179823-08-6 179823-09-7 179823-10-0 179823-11-1 179823-12-2 179823-13-3 179823-14-4 179823-15-5
RL: RCT (Reactant); RACT (Reactant or reagent)
(preparation of high purity racemic metallocene alkyls as polymerization catalysts)

HOW MANY MORE ANSWERS DO YOU WISH TO SCAN? (1):1

L8 172 ANSWERS HCAPLUS COPYRIGHT 2009 ACS on STN
CC 20 (Nonferrous Metals and Alloys)
TI Hot pressing of metallic carbides
IT Activation energy, Heat of activation
(of sintering, of metal carbides by hot pressing)
IT Carbides
(pressing (hot) of powdered)
IT Manganese alloy, carbide-
(powdered, hot pressing of)
IT 7440-48-4P, Cobalt
RL: PREP (Preparation)
(Co phase purity in, determination of, powdered, hot pressing of, carbide alloys, carbide powder manufacture in liquid)
IT 7439-89-6P, Iron 7440-02-0P, Nickel 11148-32-6P, Iron alloys, nickel- 127850-86-6P, Cobalt alloys, carbide-Ni-
RL: PREP (Preparation)
(carbide powder manufacture in liquid)
IT 12069-94-2, Niobium carbide, NbC 12070-08-5, Titanium carbide 12070-14-3, ZrC 12716-37-9, Iron alloys, carbide-

(hot pressing of powdered)
IT 12070-06-3, Tantalum carbide, TaC 12070-10-9, Vanadium carbide, VC
(hot-pressing of powdered)
IT 12012-35-0, Chromium carbide, Cr3C2 12069-85-1, Hafnium carbide, HfC 12069-89-5, Molybdenum carbide, Mo2C 52974-38-6, Nickel alloys, carbide-
(powdered, hot pressing of)
IT 12070-12-1, Tungsten carbide, WC
(pressing (hot) of powdered)

HOW MANY MORE ANSWERS DO YOU WISH TO SCAN? (1):1

L8 172 ANSWERS HCAPLUS COPYRIGHT 2009 ACS on STN
IC ICM C01B009-08
ICS C01F017-00; C01G025-04; C01G027-04
CC 49-5 (Industrial Inorganic Chemicals)
Section cross-reference(s): 73
TI Manufacture of metal fluorides
ST fluoride metal high purity prepn; optical amplifier metal fluoride prepn
IT Optical amplifiers
(fluorination of metals for manufacture of high-purity metal fluorides for optical amplifiers)
IT Fluorides, preparation
RL: IMF (Industrial manufacture); PREP (Preparation)
(fluorination of metals for manufacture of high-purity metal fluorides for optical amplifiers)
IT 7783-49-5P, Zinc difluoride 7783-52-0P, Indium trifluoride 7783-64-4P, Zirconium tetrafluoride 7790-79-6P, Cadmium difluoride 13709-38-1P, Lanthanum trifluoride
RL: IMF (Industrial manufacture); PREP (Preparation)
(fluorination of metals for manufacture of high-purity metal fluorides for optical amplifiers)
IT 7601-90-3, Perchloric acid, processes 7697-37-2, Nitric acid, processes 7722-84-1, Hydrogen peroxide, processes
RL: PEP (Physical, engineering or chemical process); PROC (Process)
(fluorination of metals for manufacture of high-purity metal fluorides for optical amplifiers)
IT 13709-52-9P, Hafnium fluoride
RL: PNU (Preparation, unclassified); PREP (Preparation)
(fluorination of metals for manufacture of high-purity metal fluorides for optical amplifiers)
IT 7439-91-0, Lanthanum, reactions 7440-43-9, Cadmium, reactions 7440-58-6, Hafnium, reactions 7440-66-6, Zinc, reactions 7440-67-7, Zirconium, reactions 7440-74-6, Indium, reactions 7664-39-3, Hydrofluoric acid, reactions
RL: RCT (Reactant); RACT (Reactant or reagent)
(fluorination of metals for manufacture of high-purity metal fluorides for optical amplifiers)

HOW MANY MORE ANSWERS DO YOU WISH TO SCAN? (1):1

L8 172 ANSWERS HCAPLUS COPYRIGHT 2009 ACS on STN
IC ICM C01G027-04
CC 49-5 (Industrial Inorganic Chemicals)
TI Manufacture of high-purity hafnium tetrafluoride
ST hafnium tetraboride hydrogen fluoride reaction; tetrafluoride hafnium particle prepn; bromine hafnium reaction
IT 13709-52-9P, Hafnium tetrafluoride
RL: PREP (Preparation)
(preparation of high-purity, by reacting hafnium boride with hydrogen fluoride in gas phase)
IT 7440-58-6, Hafnium, reactions

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     RL: RCT (Reactant); RACT (Reactant or reagent)
        (reaction of, with bromine, for preparation of hafnium tetraboride
        in manufacture of hafnium tetrafluoride)
IT   7664-39-3, Hydrogen fluoride, reactions
     RL: RCT (Reactant); RACT (Reactant or reagent)
        (reaction of, with hafnium tetraboride, in gas phase, for
        preparation of high-purity hafnium tetrafluoride)
IT   7726-95-6, Bromine, reactions
     RL: RCT (Reactant); RACT (Reactant or reagent)
        (reaction of, with hafnium, for preparation of hafnium
        tetraboride in manufacture of hafnium tetrafluoride)
IT   13777-22-5
     RL: RCT (Reactant); RACT (Reactant or reagent)
        (reaction of, with hydrogen fluoride, in vapor phase, for preparation of
        high-purity hafnium tetrafluoride)

HOW MANY MORE ANSWERS DO YOU WISH TO SCAN? (1):0

=> s l8 and (sputter OR sputtering OR target)
         50196 SPUTTER
           138 SPUTTERS
         50290 SPUTTER
                  (SPUTTER OR SPUTTERS)
        137787 SPUTTERING
            45 SPUTTERINGS
        137802 SPUTTERING
                  (SPUTTERING OR SPUTTERINGS)
        422631 TARGET
        171923 TARGETS
        526725 TARGET
                  (TARGET OR TARGETS)
L9          21 L8 AND (SPUTTER OR SPUTTERING OR TARGET)

=> d l9 ibib, abs

L9   ANSWER 1 OF 21  HCAPLUS  COPYRIGHT 2009 ACS on STN
ACCESSION NUMBER:         2007:733621  HCAPLUS
DOCUMENT NUMBER:          147:123223
TITLE:                    Method for manufacturing high purity single-walled
                          carbon nanotubes on glass substrates at relatively low
                          temperatures
INVENTOR(S):              Min, Yo-Sep; Bae, Eun-Ju; Park, Wan-Jun
PATENT ASSIGNEE(S):       S. Korea
SOURCE:                   U.S. Pat. Appl. Publ., 11pp.
                          CODEN: USXXCO
DOCUMENT TYPE:            Patent
LANGUAGE:                 English
FAMILY ACC. NUM. COUNT:   1
PATENT INFORMATION:

     PATENT NO.          KIND   DATE        APPLICATION NO.         DATE
     --------------      ----   --------    -------------------     --------
     US 20070154623       A1    20070705    US 2006-471262          20060620
     KR 2007071177        A     20070704    KR 2005-134405          20051229
     JP 2007182374        A     20070719    JP 2006-350430          20061226
PRIORITY APPLN. INFO.:                      KR 2005-134405      A   20051229
AB   A method for manufacturing high-quality single-walled carbon nanotubes on a
     glass substrate at relatively low temps. includes: depositing a buffer
     layer on a glass substrate; depositing a catalytic metal on the buffer
     layer; placing the glass substrate having the catalytic metal formed
     thereon in a vacuum chamber and generating H2O plasma inside the vacuum
     chamber; and supplying a source gas into the vacuum chamber and growing a
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carbon nanotube on the glass substrate.

=> d l9 1-21 ti

L9 ANSWER 1 OF 21 HCAPLUS COPYRIGHT 2009 ACS on STN
TI Method for manufacturing high purity single-walled carbon nanotubes on glass substrates at relatively low temperatures

L9 ANSWER 2 OF 21 HCAPLUS COPYRIGHT 2009 ACS on STN
TI High-purity hafnium, target and thin film comprising high-purity hafnium, and process for producing high-purity hafnium

L9 ANSWER 3 OF 21 HCAPLUS COPYRIGHT 2009 ACS on STN
TI Determination of trace impurities in high-purity zirconium dioxide by inductively coupled plasma atomic emission spectrometry using microwave-assisted digestion and wavelet transform-based correction procedure

L9 ANSWER 4 OF 21 HCAPLUS COPYRIGHT 2009 ACS on STN
TI Manufacture of high-purity hafnium and sputtering target therefrom

L9 ANSWER 5 OF 21 HCAPLUS COPYRIGHT 2009 ACS on STN
TI High purity target manufacturing methods

L9 ANSWER 6 OF 21 HCAPLUS COPYRIGHT 2009 ACS on STN
TI High purity hafnium, target and thin film comprising said high purity hafnium, and method for producing high purity hafnium

L9 ANSWER 7 OF 21 HCAPLUS COPYRIGHT 2009 ACS on STN
TI Highly pure hafnium material, target thin film comprising the same and method for producing highly pure hafnium

L9 ANSWER 8 OF 21 HCAPLUS COPYRIGHT 2009 ACS on STN
TI High-purity zirconium or hafnium for sputtering targets for fabrication of thin films, manufacture thereof and manufacture of high-purity hafnium or zirconium powder

L9 ANSWER 9 OF 21 HCAPLUS COPYRIGHT 2009 ACS on STN
TI High-purity niobium having fine-grained microstructure for manufacture of sheets and sputtering targets

L9 ANSWER 10 OF 21 HCAPLUS COPYRIGHT 2009 ACS on STN
TI Determination of trace elements in high-purity platinum by laser ablation inductively coupled plasma mass spectrometry using solution calibration

L9 ANSWER 11 OF 21 HCAPLUS COPYRIGHT 2009 ACS on STN
TI High purity Hf and Zr target materials for gate insulator films

L9 ANSWER 12 OF 21 HCAPLUS COPYRIGHT 2009 ACS on STN
TI Determination of trace elements in high-purity platinum by laser ablation inductively coupled plasma mass spectrometry using solution calibration

L9 ANSWER 13 OF 21 HCAPLUS COPYRIGHT 2009 ACS on STN
TI High-purity tantalum suitable for powder alloying and manufacture of cast recrystallized strip for sputtering targets

L9 ANSWER 14 OF 21 HCAPLUS COPYRIGHT 2009 ACS on STN
TI Purity determination of super-enriched 176Yb by neutron activation and thermal neutron capture cross section measurement of the high-spin (16+) isomer 178m2Hf

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L9   ANSWER 15 OF 21  HCAPLUS  COPYRIGHT 2009 ACS on STN
TI   Multielement Characterization of High-Purity Titanium for Microelectronics
     by Neutron Activation Analysis

L9   ANSWER 16 OF 21  HCAPLUS  COPYRIGHT 2009 ACS on STN
TI   A study on the analysis of minerals and materials by NAA

L9   ANSWER 17 OF 21  HCAPLUS  COPYRIGHT 2009 ACS on STN
TI   AES observations of refractory metal surfaces after a short time of indoor
     exposure

L9   ANSWER 18 OF 21  HCAPLUS  COPYRIGHT 2009 ACS on STN
TI   Formation of high-purity insulating films

L9   ANSWER 19 OF 21  HCAPLUS  COPYRIGHT 2009 ACS on STN
TI   High-purity metal for sputtering target

L9   ANSWER 20 OF 21  HCAPLUS  COPYRIGHT 2009 ACS on STN
TI   Synthesis and fabrication of high purity hafnium nitride and hafnium
     carbide

L9   ANSWER 21 OF 21  HCAPLUS  COPYRIGHT 2009 ACS on STN
TI   Foils obtained by thermal dissociation


=> dup rem l9
PROCESSING COMPLETED FOR L9
L10          21 DUP REM L9 (0 DUPLICATES REMOVED)

=> d 19 2,4,5,6,7,8,11,19 ibib,abs

L9   ANSWER 2 OF 21  HCAPLUS  COPYRIGHT 2009 ACS on STN
ACCESSION NUMBER:         2007:58783  HCAPLUS
DOCUMENT NUMBER:          146:166716
TITLE:                    High-purity hafnium, target and thin film
                          comprising high-purity hafnium, and process for
                          producing high-purity hafnium
INVENTOR(S):              Shindo, Yuichiro
PATENT ASSIGNEE(S):       Nippon Mining & Metals Co., Ltd., Japan
SOURCE:                   PCT Int. Appl., 15pp.
                          CODEN: PIXXD2
DOCUMENT TYPE:            Patent
LANGUAGE:                 Japanese
FAMILY ACC. NUM. COUNT:   1
PATENT INFORMATION:

     PATENT NO.          KIND   DATE        APPLICATION NO.        DATE
     --------------      ----   --------    -------------------    --------
     WO 2007007498        A1    20070118    WO 2006-JP311722       20060612
         W:  AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH,
             CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD,
             GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KM, KN, KP, KR,
             KZ, LC, LK, LR, LS, LT, LU, LV, LY, MA, MD, MG, MK, MN, MW, MX,
             MZ, NA, NG, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RS, RU, SC, SD,
             SE, SG, SK, SL, SM, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ,
             VC, VN, ZA, ZM, ZW
         RW: AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE,
             IS, IT, LT, LU, LV, MC, NL, PL, PT, RO, SE, SI, SK, TR, BF, BJ,
             CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG, BW, GH,
             GM, KE, LS, MW, MZ, NA, SD, SL, SZ, TZ, UG, ZM, ZW, AM, AZ, BY,
             KG, KZ, MD, RU, TJ, TM
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EP 1930451	A1	20080611	EP 2006-766584		20060612
R: DE					
KR 2008017439	A	20080226	KR 2008-700215		20080104
CN 101218360	A	20080709	CN 2006-80024726		20080107
PRIORITY APPLN. INFO.:			JP 2005-198901	A	20050707
			WO 2006-JP311722	W	20060612

AB Disclosed are a process for producing high-purity hafnium from a hafnium sponge reduced in Zr content as a raw material, the high-purity hafnium being reduced in the contents of Fe, Cr, Ni, Ca, Na, K, Al, Co, Cu, Ti, W, Zn, U, Th, Pb, Bi, an C impurities and having very low α-ray count; an efficient and stable production technique; a high-purity hafnium material obtained by the technique; and a sputtering target and a gate insulator or thin film for metal gate made of the high-purity Hf. The high-purity hafnium is characterized in that the purity of the hafnium excluding Zr and the volatile matter is 6N or higher and that the contents of Fe, Cr, and Ni each is 0.2 ppm or lower, the contents of Ca, Na, and K each is 0.1 ppm or lower, and the contents of Al, Co, Cu, Ti, W, and Zn each is 0.1 ppm or lower.

REFERENCE COUNT: 6 THERE ARE 6 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L9 ANSWER 4 OF 21 HCAPLUS COPYRIGHT 2009 ACS on STN
ACCESSION NUMBER: 2006:123721 HCAPLUS
DOCUMENT NUMBER: 144:194659
TITLE: Manufacture of high-purity hafnium and sputtering target therefrom
INVENTOR(S): Yamanaka, Satoru; Unno, Osamu; Takeda, Hiroshi
PATENT ASSIGNEE(S): Toho Titanium Co., Ltd., Japan
SOURCE: Jpn. Kokai Tokkyo Koho, 11 pp.
CODEN: JKXXAF
DOCUMENT TYPE: Patent
LANGUAGE: Japanese
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
JP 2006037133	A	20060209	JP 2004-215569	20040723
PRIORITY APPLN. INFO.:			JP 2004-215569	20040723

AB Hf oxide is chlorinated using a chlorination furnace to obtain Hf chloride, and the HfCl4 is reduced by active metal to give metallic Hf and purified under a reduced pressure to obtain high-purity Hf containing <30 ppm C and <100 ppm O. The high-purity Hf is used as sputtering target.

L9 ANSWER 5 OF 21 HCAPLUS COPYRIGHT 2009 ACS on STN
ACCESSION NUMBER: 2006:11853 HCAPLUS
DOCUMENT NUMBER: 144:91996
TITLE: High purity target manufacturing methods
INVENTOR(S): Ivanov, Eugene, Y.
PATENT ASSIGNEE(S): Tosoh Smd, Inc., USA
SOURCE: PCT Int. Appl., 13 pp.
CODEN: PIXXD2
DOCUMENT TYPE: Patent
LANGUAGE: English
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 2006001976	A2	20060105	WO 2005-US19195	20050601
WO 2006001976	A3	20060216		

W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KM, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NA, NG, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SM, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW

RW: AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IS, IT, LT, LU, MC, NL, PL, PT, RO, SE, SI, SK, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG, BW, GH, GM, KE, LS, MW, MZ, NA, SD, SL, SZ, TZ, UG, ZM, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM

US 20070243095 A1 20071018 US 2006-587449 20061024
PRIORITY APPLN. INFO.: US 2004-579748P P 20040615
WO 2005-US19195 W 20050601

AB A method for producing a high purity tungsten sputtering target. The method includes heat treating of high purity tungsten powder in order to consolidate it into a blank with d. providing closed porosity. The consolidation may be achieved by hot pressing, HIP, or any other appropriate method. Next, this plate is rolled to produce target blanks of approx. size and further increased d. of the material. The method may be applicable to a variety of blanks including round shape target blanks, for example, consisting of tungsten, molybdenum, tantalum, hafnium, etc.

REFERENCE COUNT: 3 THERE ARE 3 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L9 ANSWER 6 OF 21 HCAPLUS COPYRIGHT 2009 ACS on STN
ACCESSION NUMBER: 2005:472367 HCAPLUS
DOCUMENT NUMBER: 142:492227
TITLE: High purity hafnium, target and thin film comprising said high purity hafnium, and method for producing high purity hafnium
INVENTOR(S): Shindo, Yuichiro
PATENT ASSIGNEE(S): Nikko Materials Co., Ltd., Japan
SOURCE: PCT Int. Appl., 16 pp.
CODEN: PIXXD2
DOCUMENT TYPE: Patent
LANGUAGE: Japanese
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 2005049882	A1	20050602	WO 2004-JP15777	20041025
W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NA, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW				
RW: BW, GH, GM, KE, LS, MW, MZ, NA, SD, SL, SZ, TZ, UG, ZM, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM, AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PL, PT, RO, SE, SI, SK, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG				
EP 1686196	A1	20060802	EP 2004-792914	20041025
R: DE, GB, NL				
CN 1882711	A	20061220	CN 2004-80034175	20041025
EP 2017360	A2	20090121	EP 2008-165172	20041025
R: DE, GB, NL				
TW 275653	B	20070311	TW 2004-93132709	20041028

US 20060266158	A1	20061130	US 2006-595660		20060503
KR 766275	B1	20071015	KR 2006-711476		20060612
PRIORITY APPLN. INFO.:			JP 2003-388737	A	20031119
			EP 2004-792914	A3	20041025
			WO 2004-JP15777	W	20041025

AB The invention relates to a high purity hafnium, characterized in that it has a purity of 4N or higher, with the exception of zirconium and gas components, and has an oxygen content of 40 ppm or less; a target and thin film comprising the high purity hafnium; a high purity hafnium, characterized in that it has a purity of 4N or higher, with the exception of zirconium and gas components, and has both of a sulfur content and a phosphorus content of 10 wt ppm or less; a target and thin film comprising the high purity hafnium; a high purity hafnium material which is prepared by the use of a hafnium sponge having been reduced in the content of zirconium as a raw material and is further reduced in the contents of oxygen, sulfur and phosphorus; a target and thin film comprising the high purity hafnium material; and a method for producing a high purity hafnium. An efficient and stable production technique, a high purity hafnium material prepared by the technique, and a target and a thin film comprising said material are provided.

REFERENCE COUNT: 16 THERE ARE 16 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L9 ANSWER 7 OF 21 HCAPLUS COPYRIGHT 2009 ACS on STN

ACCESSION NUMBER: 2005:99653 HCAPLUS
DOCUMENT NUMBER: 142:189002
TITLE: Highly pure hafnium material, target thin film comprising the same and method for producing highly pure hafnium
INVENTOR(S): Shindo, Yuichiro
PATENT ASSIGNEE(S): Nikko Materials Co., Ltd., Japan
SOURCE: PCT Int. Appl., 13 pp.
CODEN: PIXXD2
DOCUMENT TYPE: Patent
LANGUAGE: Japanese
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 2005010220	A1	20050203	WO 2004-JP5389	20040415
W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NA, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW				
RW: BW, GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM, AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PL, PT, RO, SE, SI, SK, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG				
EP 1652944	A1	20060503	EP 2004-727690	20040415
R: DE				
CN 1829807	A	20060906	CN 2004-80021556	20040415
CN 100376696	C	20080326		
TW 271441	B	20070121	TW 2004-93110816	20040419
US 20070018138	A1	20070125	US 2006-565767	20060124
KR 749653	B1	20070814	KR 2006-701711	20060125
KR 2007070263	A	20070703	KR 2007-714503	20070626
PRIORITY APPLN. INFO.:			JP 2003-279695	A 20030725
			WO 2004-JP5389	W 20040415

AB A method for producing highly pure hafnium, which comprises providing an aqueous solution of a chloride of hafnium, removing zirconium from the resultant solution by the solvent extraction, neutralizing the resultant solution to give hafnium oxide, chlorinate the hafnium oxide product to give hafnium chloride, reducing the hafnium chloride product to give a hafnium sponge, and melting the hafnium sponge with an electron beam to provide a hafnium ingot; a highly pure hafnium material produced by the method; a target and a thin film comprising the hafnium material; and a method for manufacturing the target or the thin film. The highly pure hafnium material is reduced in the content of zirconium contained in hafnium, and the above method for producing highly pure hafnium is efficient and is stable.

REFERENCE COUNT: 4 THERE ARE 4 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L9 ANSWER 8 OF 21 HCAPLUS COPYRIGHT 2009 ACS on STN

ACCESSION NUMBER: 2002:276223 HCAPLUS

DOCUMENT NUMBER: 136:313507

TITLE: High-purity zirconium or hafnium for sputtering targets for fabrication of thin films, manufacture thereof and manufacture of high-purity hafnium or zirconium powder

INVENTOR(S): Shindo, Yuichiro

PATENT ASSIGNEE(S): Nikko Materials Company, Limited, Japan

SOURCE: PCT Int. Appl., 33 pp.
CODEN: PIXXD2

DOCUMENT TYPE: Patent

LANGUAGE: Japanese

FAMILY ACC. NUM. COUNT: 2

PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 2002029125	A1	20020411	WO 2001-JP5612	20010629
W: KR, US				
RW: AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, TR				
JP 2002105552	A	20020410	JP 2000-302392	20001002
JP 4104039	B2	20080618		
JP 2002206103	A	20020726	JP 2001-59769	20010305
EP 1329526	A1	20030723	EP 2001-947791	20010629
EP 1329526	B1	20070912		
R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, FI, CY, TR				
US 20030062261	A1	20030403	US 2002-182764	20020731
US 6861030	B2	20050301		
JP 2007119925	A	20070517	JP 2006-325244	20061201
JP 2007169782	A	20070705	JP 2006-325242	20061201

PRIORITY APPLN. INFO.:

JP 2000-302392	A	20001002
JP 2000-341301	A	20001109
JP 2001-59769	A	20010305
WO 2001-JP5612	W	20010629

AB A high purity Zr or Hf contains extremely small amts. of alkali metals such as Na or K, a radioactive element such as U or Th, a transition metal or heavy metal or high m.p. metal such as Fe, Ni, Co, Cr, Cu, Mo, Ta or V, and a gas forming element such as C or O. The Zr or Hf is suitable for sputtering targets used for fabrication of thin films.

REFERENCE COUNT: 5 THERE ARE 5 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L9 ANSWER 11 OF 21 HCAPLUS COPYRIGHT 2009 ACS on STN
ACCESSION NUMBER: 2001:258016 HCAPLUS
DOCUMENT NUMBER: 135:22704
TITLE: High purity Hf and Zr target materials for gate insulator films
AUTHOR(S): Shindo, Yuichiro; Miyashita, Hirohito; Okabe, Takeo
CORPORATE SOURCE: New Material Development Center, Nikko Materials Co., Ltd., Japan
SOURCE: Shin Kinzoku Kogyo (2001), 372, 91-96
CODEN: SKKOAM; ISSN: 0583-0419
PUBLISHER: Shin Kinzoku Kyokai
DOCUMENT TYPE: Journal; General Review
LANGUAGE: Japanese
AB A review with no refs. is given on manufacturing technol. of high purity Hf and Zr target materials for gate insulator films.

L9 ANSWER 19 OF 21 HCAPLUS COPYRIGHT 2009 ACS on STN
ACCESSION NUMBER: 1988:172155 HCAPLUS
DOCUMENT NUMBER: 108:172155
ORIGINAL REFERENCE NO.: 108:28229a,28232a
TITLE: High-purity metal for sputtering target
INVENTOR(S): Obata, Minoru; Higashinakagaha, Emiko; Kuwae, Yoshinori; Murabayashi, Hideki
PATENT ASSIGNEE(S): Toshiba Corp., Japan
SOURCE: Jpn. Kokai Tokkyo Koho, 7 pp.
CODEN: JKXXAF
DOCUMENT TYPE: Patent
LANGUAGE: Japanese
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
JP 62294179	A	19871221	JP 1986-137484	19860613

PRIORITY APPLN. INFO.: JP 1986-137484 19860613
AB A metal (especially Ti, Ta, Zr, Hf, or Cr) from halide decomposition is directly deposited on an induction-heated substrate. An electron beam or laser beam is used to irradiate the substrate surface for an accelerated deposition rate of the metal. Thus, 600 g sponge Ti and 2.5 g I were placed inside a reactor provided with a vertical Ti plate, and the reactor heated inside a furnace at 500° to form TiI4 vapor. The Ti plate was induction heated to 1400°, and irradiated for 10 h with electron beam at 400 V and c.d. 100 mA/cm2. The resulting Ti plate contained Fe 50, Cl 90, Mn 30, C 20, H 10, and O 30 ppm as major impurities.

=> d cost

COST IN U.S. DOLLARS	SINCE FILE ENTRY	TOTAL SESSION
CONNECT CHARGES	19.46	40.09
NETWORK CHARGES	0.49	1.40
SEARCH CHARGES	0.00	32.23
DISPLAY CHARGES	34.98	113.72
FULL ESTIMATED COST	54.93	187.44

DISCOUNT AMOUNTS (FOR QUALIFYING ACCOUNTS)	SINCE FILE ENTRY	TOTAL SESSION
CA SUBSCRIBER PRICE	-7.38	-21.32

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STN INTERNATIONAL LOGOFF AT 21:06:59 ON 25 FEB 2009